OFFENDER PROFILING: A REVIEW, CRITIQUE, AND AN INVESTIGATION OF THE INFLUENCE OF CONTEXT, PERCEPTION, AND MOTIVATIONS ON SEXUAL OFFENDING

By

Shannon Lynn Vettor

A thesis submitted to the College of Life and Environmental Sciences of the University of Birmingham for the degree of DOCTOR OF PHILOSOPHY

School of Psychology
College of Life and Environmental Sciences
The University of Birmingham
December 2011

Abstract

This thesis investigates the underlying assumptions of Offender Profiling and the ability to infer offender characteristics from crime scene characteristics of sexual offences, taking into consideration the potential mediating effects of the context and situational factors surrounding the offence, the offender's perceptions or implicit theories, and their motivations to sexually offend. Data examined were collected during the evaluation of the Sex Offender Treatment Programme and consisted of men who committed either a rape or sexual murder against adult women. Chapter 1 and 2 review the Offender Profiling literature and offer critiques and areas to further examine, such as the affects of context, perceptions, and motivations on the A(ctions) to C(haracteristics) equation of Offender Profiling. Chapter 3 outlines the different methodologies used in the subsequent chapters. Chapter 4 compares the characteristics of rapists and sexual murderers and found very few differences in both offender and offence characteristics. It also looked at the pathway to offending of sexual aggressors of adult women and found three, which were supported by previous literature: *Angry*, *Sadistic*, and *Sexually Compensatory*. Chapter 5 looked at the effects of various contextual variables on the relationship between offender characteristics and offence characteristics and found that the location of the offence, and use drugs just prior to the offence influenced the ability to infer certain offender characteristics from offence characteristics. Chapter 6 investigates the inclusion of perceptual aspects in the form of the offender's implicit theories and the effect these have on the A(ctions) to C(haracteristics) equation. No significant mediated relationships were found. Chapter 7 examines the effect of the offender's motivations to offend and how this would affect the ability to infer offender characteristics from crime scene variables. Four motivations were found within the current sample, *Angry*, *Sadistic*, *Sexually Compensatory*, and *Sexually Opportunistic*. There were no significant mediating relationships found between the motivations, offender characteristics, and offence characteristics. The results of the thesis are discussed in terms of both pragmatic and theoretical support of Offender Profiling and the limitations of the research.

ACKNOWLEDGEMENTS

First and foremost, I'd like to infinitely thank my supervisors Tony Beech and Jessica Woodhams. While I know it was not always easy, you both provided me with immeasurable guidance and support, both professionally and personally. Thank you for keeping me going and giving me the 'gentle' nudges I needed to finish.

A special thank you to Sue Hanson for all the time spent listening over the many years I've been at the University, and for always knowing where everything is, and who the correct person is to speak to! Without you, we would be lost.

To my friends and colleagues in the Centre for Forensic and Criminological Psychology, who have supported me and been there over the years in many capacities, Leigh Harkins, Shelley Price, Louise Dixon, and Ross Bartels, without your insights, smiling faces, constant friendship, and readiness with kind words, the long days and nights would not have been bearable. For this, I am eternally grateful. To the friends I have met during my time in England, Eleanor Gittens, Kerri Badger, Katerina Kantartzis, and Kate Graham your ability to make me cry with laughter and keep me sane will never be forgotten. You have all made my experience in England more than I could have imagined and hoped for. To Laura, Nattalie, Lynn, Katie, and Lillian, thanks for all of your constant badgering to come home I miss you too!

Jay, from the day we met, you have been there; through the good and the bad, even when you didn't have to. You have pushed and encouraged me when I couldn't do it myself. I am forever grateful for the love and support you and your family have given me.

Finally, I would like to thank my family for their everlasting support and belief in me over these long years of study, and your constant question: "Are you done yet?!". To which I can now answer, "Yes!". An ocean and half of a country between us has never stopped me being able to feel your love and support, Mom, Dad, Nana, Papa, and Craig, I thank you, I miss you greatly, and I love you. To my sister Holly, you have been there since the day I was born, and I have felt you beside me every step of the way. I love you and I promise not to steer Tyler wrong!

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1 & 2
Offender Profiling: An Overview and Critique of its Assumptions and its Approaches and the Directions for Offender Profiling and Current Thesis

The aim Chapters 1 and 2 are to provide an overview and critique of the Offender Profiling literature, its underlying assumptions, the relationship of the A(ctions) to C(haracteristics) equation at the heart of Offender Profiling, and potential influencing factors on this relationship. As well, as the various approaches developed over its short empirical history. In particular, the early Investigative and later Theory-led approaches made public by the FBI, the Clinical approach, as well as, the more 'recent' Statistical approaches will be discussed. The strengths and weaknesses associated with each of the approaches are evaluated, along with the potential influences of the offence context, such as location of the offence, the underlying offender perceptions, their implicit theories, and the offender's motivations for offending as prospective directions for Offender Profiling and the rational for the current thesis.

Chapter 1: Offender Profiling: An Overview and Critique of its Assumptions and its Approaches.

1. Introduction

Offender profiling, while not a new phenomenon, only started developing as an area of research interest when the FBI Academy in Quantico started publicising their techniques in the 1970's (e.g., Douglas, Ressler, Burgess, & Hartman, 1986), which resulted in offender profiling becoming more widely known (Canter, 2004). Currently, in the UK, the term offender profiling, or the process by which inferences about potential offender characteristics are made based on crime scene information, is one aspect of what is referred to as behavioural investigative advice (BIA; ACPO, 2006). This relates to the analysis of crime scene behaviours in order to generate both offender characteristics and investigative suggestions to aid in the generation, prioritisation, and identification of relevant suspects (Rainbow, 2007).

Generally, offender profiling is referred to as a "technique for identifying the major personality and behavioural characteristics of an individual based upon an analysis of the crimes he or she has committed" (Douglas et al., 1986, p. 405). Reiser (1982) has been attributed as describing profiling as "an arcane art, in which psycho-diagnostic assessment and psychobiography are combined with case evidence and probabilities from similar cases to draw a picture of a likely offender" (p. 261). Both are methods that provide possible descriptions of possible perpetrators of crime based on the analysis of the offence, the manner in which the offence is committed, and by the determination of personality aspects of the offender and characteristics from their crime scene actions before, during and after the offence (Blau, 1994). The underlying rationale is that behaviour will reflect personality, and by examining behaviour exhibited during the perpetration of a crime an investigator can determine the likely characteristics of the person responsible for the offence (Douglas et al., 1986). Simply put, offender profiling is the ability to infer the characteristics of an unknown offender from their crime scene. The inferences developed are made with the intent to aid law enforcement personnel in their investigations (Holmes & De Burger, 1988).

1.1 Evaluations of Offender Profiling

1.1.1 Utility of Offender Profiles

The utility of profiling was assessed by Copson in 1995. He sampled 184 police investigations from the United Kingdom where profiling had played a role. On analysis, he found that profiles could be put into one of two categories: predictive or explanative. The predictive profiles made predictions about the likely characteristics of the offender, whereas, the explanative profiles, explained the offender's behaviour to the police investigators. Overall, the majority of investigators considered the profiles useful in advancing the case and stated they would seek profiling advice again. This was despite only 14% of the investigators stating that the profile helped to solve the case. This is similar to the findings of Jackson, van Koppen and Herbrink (1993) who found their Dutch police officers to be satisfied with the profiles included in the study with only two out of 42 evaluations made viewed in a negative light. In contrast, a nationwide American survey of 152 police psychologists found that 70% of the police psychologists questioned the validity and usefulness of profiles, and did not feel comfortable with profiling (Bartol, 1996). Despite concerns about the outcome of using offender profiles, a contributing factor in their perceived usefulness could be related to the interpretation of the information contained in them and the potential increase of understanding of the crime, regardless of the actual pragmatic utility of the profile (Alison, Smith, & Morgan, 2003).

1.1.2 Content of Offender Profiles

Offender profiling has not only been investigated in terms of its perceived usefulness, in recent years, two studies have investigated the content of profiles. The first study in 2003, by Alison, Smith, Eastman, and Rainbow, examined a sample of 21 profiles of violent crimes (e.g., murder, serial rape, arson), obtained from the United Kingdom, the United States, and Europe, containing just over 3000 statements. Of the 880 statements referring to the offender characteristics, 82% were unsubstantiated with no justification of their validity, with less than 16% including any grounds for the claims made. The majority of the statements given in the profiles were repetition of case facts and offence details already known to the investigating officers. Comparing Alison et al.'s sample to their UK sample of 47 National Policing Improvements Agency (NPIA) behavioural investigative advice reports, Almond, Alison and Porter (2007) examined over 800 claims contained in the reports, finding that 96% providing some grounds for the claims, but only 34% of these had any formal support or backing. Of

these grounded claims, 70% were verifiable, yet more worrying was the finding that only 43% were actually falsifiable, which is an important principle of profiling. This means less than half could not be proven correct. However, compared to Alison et al.'s (2003) sample of non-NPIA expert reports, where 82% of their 880 claims were unsubstantiated, and less than 16% included any grounds for the claim, the NPIA expert advice provides more in terms of substantiation of their arguments with formal grounds for their claims (Almond et al., 2007). Despite this improvement in the content of the reports, these studies still raise questions surrounding the proportions of claims which remain without psychological backing (Almond et al., 2007). However, to be able to substantiate one's claims in an offender profile requires there to be sufficient psychological research to be used for this purpose.

1.1.3 State of the Literature of Offender Profiling

Another area in which offender profiling has been subject to critical evaluations is in terms of the body of literature on this topic. Reviews have concluded that commonsense rationales are abundant, especially when considering articles written pre-1990, those with a more clinical orientation, or those authored by law enforcement professionals (Snook, Eastwood, Gendreau, Goggin, & Cullen, 2007). Typologies of offenders have been a major product coming out of the profiling literature. The development of a typology, or classification, of categories of offenders within specific crime types allows, in theory, for the assignment of a crime scene to a specific category that will have a corresponding category of offender that exhibits those specific categories of crime scene characteristics with known characteristics. The premise behind typologies and basic profiling is that each offender type within the typology is defined by the occurrence of characteristics, behaviours, and crime-related variables that are representative of it. Within each type the same characteristics co-occur regularly with each other, and they do not co-occur with the specific characteristics of any other type of offender (Sarangi & Youngs, 2006). The premise being that each offender within a type will share the same, or similar, characteristics, behaviours, and crime-related variables.

Dowden, Bennell, and Bloomfield's (2007) systematic review of the offender profiling literature identified at least 132 published articles related to offender profiling since the mid 1970s. What they found was a rapid increase in the amount of offender profiling research, as well as an increase in the statistical sophistication (e.g., none, descriptive, or inferential) of the research. It was also found that there was an increase in the amount of studies being published in peer-reviewed journals, although the majority of these published articles were

discussion pieces, basic assumptions, literature reviews, or experiential studies, all of which provided little or no statistical analyses. Despite this observation, Dowden et al.'s review shows there's been an advancement of academic peer-reviewed offender profiling research (both in volume and statistical sophistication). Even with the advancements in the offender profiling research, there is still a need for further empirical testing of the assumptions underpinning profiling (Snook et al., 2007).

1.2 The Assumptions of Offender Profiling

There are two assumptions that must be met if inferences about an offender's characteristics are to be derived from crime scene actions, the first is the *Behavioural Consistency* assumption which implies that an offender will show similar behaviours across their offences (Canter, 1995a; Green, Booth, & Biderman, 1976). The second is the *Homology* assumption, which states that if two perpetrators exhibit similar crime scene behaviour they will also possess similar characteristics (Alison, Bennell, Mokros, & Ormerod, 2002; Mokros & Alison, 2002). The concept of *homology* was borrowed and adapted from comparative biology, and was originally defined by Richard Owen (Owen, 2007). The term, defined as "the same organ in different animals under every variety of form and function" (Owen, 1843; p. 379), is based on structure, not function. It refers to structures in different species that have a common evolutionary ancestry; even if they no longer serve the same purpose or have the same appearance (Owen, 2007). Its adapted use in offender profiling lies in the concept of similarity between crime scene actions (loosely analogous to structure) and the characteristics that give rise to the actions (loosely analogous to ancestry). Like the arms of a human, the foreleg of a dog, the wing of a bird, and the fin of a fish can all be traced back to a specific original limb in a prehistoric vertebrate, the homologous behaviours exhibited in a crime can be linked back to a similar characteristic possessed across offenders. The mapping of the biological sense of *homology* and the use of the term within offender profiling is not completely harmonious. However, it is unclear whether the use of the term [by Alison et al. 2002] was meant to be a direct translation to offender profiling, or be used as a distinct (although tenuously similar) concept specific to offender profiling.

These assumptions are used to validate the "profiling equation", the A (ctions) to C (haracteristics) equation (Canter, 2011). The basis for the inferences made in offender profiling are derived from the actions/aspects of the crime, which ideally would be behaviourally consistent across an offender's crimes. These then provide information about

the potential characteristics of the offender, with offenders exhibiting similar crime actions possessing similar characteristic (Canter, 2004; 2011). If these assumptions are invalid, the practice of offender profiling not only becomes inaccurate, but the advice given to a criminal investigation would be misleading, resulting in both human and financial costs (Alison et al., 2002; Gudjonsson & Copson, 1997).

1.2.1 The Behavioural Consistency Assumption

With regards to behavioural consistency, the body of supporting research comes from the area of case linkage (Bennell & Jones, 2005; Woodhams & Grant, 2006), comparative case analysis (Bennell & Canter, 2002), or linkage analysis (Hazelwood & Warren, 2003). These different terms refer to a form of behavioural analysis, based on the behavioural similarity and distinctiveness of the offence, which is used to identify a series of crimes committed by the same offender (Woodhams, Hollin, & Bull, 2007), often when there is a lack of physical evidence (e.g., DNA) to identify the offender (Davies, 1991). Their research supports the assumption that offenders behave consistently within crime types, including sexual assault (e.g., Grubin, Kelly, & Brunsdon, 2001; Knight, Warren, Reboussin, & Soley, 1998), homicide (e.g., Salfati & Bateman, 2005; Santtila et al., 2008), burglary (e.g., Bennell & Canter, 2002; Bennell & Jones, 2005; Goodwill & Alison, 2007; Green et al., 1976), robbery (e.g., Woodhams & Toye, 2007), and arson (e.g., Fritzon, Canter, & Wilton, 2001; Santtila, Fritzon, & Tamelander, 2005).

Common features exist between linkage analysis and offender profiling and some consider linkage analysis to be another type of offender profiling. The main similarity is that both share the underlying assumption of offender behavioural consistency; the hypothesis that offenders will display in their behaviour consistency across a series of offences (Canter, 1995b; Woodhams, Bull, & Hollin, 2007). The possibility of linking a series of crimes can be beneficial and helpful for the police as it allows for the collection of information across different crimes, the potential of increasing evidence against an offender, the combining of separate investigations utilising more effective police resources and lastly, the production of similar fact evidence in legal proceedings (Grubin et al., 2001; Hazelwood & Warren, 2003; Labuschagne, 2006). There is growing potential for the utility of linkage analysis in investigating less serious crimes (e.g., robbery), beyond its current success with investigating stranger rape or murder, or other more serious crimes (Woodhams et al., 2007).

1.2.2 The Homology Assumption

While, studies have shown behavioural consistency of offenders across crimes for different crime types (e.g., Bennell & Jones, 2005; Grubin, Kelly, & Brunsdon, 2001; Woodhams et al., 2007), there has been little conclusive support for the assumption of homology. A few studies have examined the relationship between background characteristics and offence behaviour and to some extent, support the homology assumption in that bivariate relationships have been found (Canter & Fritzon, 1998; Davies, Wittebrood, & Jackson, 1998; House, 1997). In their study of 210 solved stranger rapists, Davies et al. (1998) identified that a rapist's criminal background could be predicted from his offence behaviour. Taking precautions not to leave fingerprints (e.g., wearing gloves) was linked with having a prior custodial sentence, most likely for burglary. As well, an offender who took this precaution was more likely to be a repeat or serial offender, whereas, when no such precaution was taken they were three times more likely to be a one-off sexual offender. Semen destruction indicated a fourfold increase in the offender having been convicted for prior sexual offences. Theft from the victim and forced entry, were other indicators of prior convictions for burglary. Making references to the police during the offence and the use of extreme violence against the victim were an indication of prior convictions for violence. Therefore, Davies et al. concluded the most promising models were those that predicted whether the offender had prior convictions for burglary, prior convictions for violent offences and whether the offence was more likely to be a one-off occurrence rather than committed by a serial sexual offender.

While, Davies et al. demonstrated that some specific crime scene actions were linked to particular offender characteristics, their analysis has been criticized for being little more than predicting associated base rates (Mokros & Alison, 2002). House (1997) investigated the inverse of the homology assumption – that rapists with different crime scene behaviours should have different criminal histories. He categorised the rapists as criminal, intimate, aggressive, or sadistic. In direct opposition to the homology assumption, he instead found a high degree of similarity in criminality across the four types. Canter and Fritzon (1998) results looking at the crime scene behaviours from 175 UK arsons were mixed. For three of the four thematic classifications of arson (instrumental-person, expressive-object, and expressive-person) there were no conclusive differences between the background characteristics. The instrumental-object arsons and the expressive-object arsons were the only two to have positive relations with offender characteristics, the former with a younger

offender, and the latter with the individual being a serial arsonist. Doan and Snook (2008) had similar limited results using a sample of Canadian arsonists who were categorised according to Canter and Fritzon's themes. Approximately 56% of the comparisons between background characteristics and the different thematic classifications of arson violated the homology assumption. Although, they suggest part of the discouraging findings could be due to sample differences (UK versus Canadian), and the lack of verification of the arson themes proposed by Canter and Fritzon. In the same study, Doan and Snook also looked at a sample of robberies classifying them as Cowboys, Bandits, and Robin's Men, in accordance with Alison, Rockett, Deprez, and Watts (2000). The majority of the robberies were classified as Cowboys or Bandits, with the comparisons between the background characteristics of these two groups yielding little support for the homology assumption, with 67% of the comparisons violating this assumption. Woodhams and Toye (2007) also found no support for the homology assumption in their study of commercial robberies. They examined whether the commercial robbers could be cluster according to characteristics of the offences, and whether the background information of these groupings would significantly differ. The resulting three cluster solution, while providing information about different offending styles, did not differ significantly according to offender age, ethnicity, employment, previous convictions, or distance travelled from home to offence.

In Mokros and Alison's study (2002),the crime scene behaviour and socio-demographic characteristics and criminal histories of a sample of 100 British male stranger rapists were examined. Using correlational analysis they tested for similarity between offenders' behaviour and characteristics but found no evidence to support the homology assumption. This indicates that the process of drawing inferences about background characteristics from crime scene actions is not a simple *if A then C* equation. Mokros and Alison offer a possible explanation: the homology assumption, as a simple behaviour-to-characteristics model, fails because it is too simplistic, and neglects the moderating influence of a third factor, the situation.

In support of this assumption, Goodwill and Alison (2007) have shown that the incorporation of the context, such as the level of planning or aggression used, allows for the prediction of rapists' characteristics, such as offender age, from their crime scene information, namely victim age. Alison et al. (2002) suggest that without further acknowledgement of the situational influence, a direct link between offender characteristics and crime scene actions is unlikely to be beneficial and until this happens any advice to police investigations should only be with regards to the prioritisation of suspects as this relies

more on behavioural consistency. Although, without the consideration, or understanding, of how the context or situation influences the perpetration of an offence, the degree of certainty with which an inference can be made about possible suspects, solely based on behavioural consistency, needs to be done with caution.

In a novel study, Tonkin, Bond, and Woodhams (2009) found support for the behavioural consistency assumption, but more importantly, for the homology assumption in a sample of domestic burglaries. Their results showed the deprivation of the offender's residence, and employment status was associated with the expensiveness of their footwear worn during the crime – the greater footwear costs the greater the association with the offenders' residence deprivation and unemployment of the offender. Age and gender did not relate reliably to the price of footwear worn by the offender. In pragmatic terms, Tonkin et al.'s results suggest that expensive footwear impressions are related to unemployed offenders who live in areas of deprivation.

The assumption of behavioural consistency is not dependent upon the assumption of homology being met or of it being valid; as consistent behaviour across actions does not necessitate the sameness or similarity of characteristics across offenders (Alison et al., 2002). That said, behavioural consistency is *necessary* for offender profiling to work, the offender's actions have to remain consistent for similarities to be found between their personal characteristics and behaviour (Mokros & Alison, 2002). However, the assumption of behavioural consistency would be valid if the assumption of homology is found to be valid, due to the implication that similar characteristics imply a consistency of behaviours across actions (Mokros & Alison, 2002). Yet, for offender profiling to be considered a legitimate, and importantly, a useful form of behavioural analysis, both of these assumptions must be met and found to be valid (Alison et al., 2002), as they underpin all forms of profiling.

1.3 Typographical Approaches

The various approaches to profiling are commonly grouped into three schools of thought: a criminal investigative approach, a clinical practitioner approach, and a scientific statistical approach (Alison et al., 2010; Muller, 2000). For the current review, the criminal investigative approach will be further partitioned into the pragmatic and theory-led approaches. The emphasis of this review will be on these four approaches of offender profiling as their explicit aim and focus is on predicting personal characteristics, not always the case with other forms of behavioural investigative advice (e.g., linkage analysis;

geographical profiling; equivocal death analysis), and will centre around the sexual aggressors of adult women (e.g., rape and sexual murder).

1.3.1 Pragmatic Criminal Investigative Approach

In the USA, the FBI provides behavioural-based investigative and operational support through the National Centre for the Analysis of Violent Crime's (NCAVC) Behavioural Analysis Unit (BAU). The BAU assists law enforcement agencies by their review and assessment of a criminal act, by interpreting the offender's behaviour during the crime, and the interactions between the offender and the victim during the commission of the crime and as expressed in the crime scene (FBI, 2008). One of the more well known examples of a classification system for offenders is that of the Organised/Disorganised typology of serial killers outlined by Ressler, Burgess and Douglas (1988). This classification system was originally developed to examine lust and sexual sadistic murderers, in which ultimate sexual satisfaction is achieved through the brutal and sadistic killing of the victim (Arrigo & Purcell, 2001). Developed through the review of case records, direct observations, and investigative interviews with of a sample of thirty-six men who were representative of this group of sexually oriented murderers, this dichotomy has since been applied to non-sadistic, non-serial sexual homicides and also types of arson (Ressler et al., 1988).

According to the typology at the basic level, the organised murderer is believed to lead an orderly life, which is reflected in the crimes he commits. He has an average to above average intelligence, which is displayed in the evidence of planning of his offences; he will bring and take with them a weapon of choice, and will exert control over his victim by use of restraints, and he will be socially competent. The disorganised murderer will have average to below-average intelligence, be socially incompetent, will display little if any planning of the offence, and will leave the body in open view; their crime scene will show an overall sense of disorder. Two further categories of "mixed" and "sadistic" were later developed by Douglas et al. (1992). The mixed category contains elements from both the organised and disorganised categories, while the sadistic category described those offenders who derive pleasure and gratification from causing suffering and pain, through torture and humiliating their victims. While only recently empirically tested, and found unreliable (see Canter, Alison, Alison, & Wentink, 2004), the organised/disorganised dichotomy has been widely used and praised in police investigations across the USA and other countries worldwide (Snook, Cullen, Bennell, Taylor, & Gendreau, 2008).

Another typology of serial murder put forward by Holmes and Holmes (1998) was a development of an earlier typology of Holmes and De Burger (1988). Holmes and Holmes' typology outlined five classifications of serial murderers, developed through the examination of 110 known serial murderers, through court transcripts, interview data, case studies, clinical reports and biographical accounts. The five types in their classification were: 1) the Visionary killer, 2) the Mission killer, 3) the Hedonistic-Thrill killer, 4) the Hedonistic-Lust killer, and 5) the Power/Control Oriented killer. The visionary killer murders because they are told to by the visions or voices they see and hear. Their offences tend to be chaotic and disordered. While the mission murderer kills those individuals they have judged as unworthy or undesirable. Their offences are swift, with no premortem or post-mortem activities. The hedonistic-thrill killer murders for the pleasure and excitement of the kill, which is often a long process. Whereas, the hedonistic-lust killer kills for the sexual gratification, both while the victim is alive and after they have been killed. Both subtypes of the hedonistic killer plan and organise their offences. These killings focus on sexual gratification and sadistic acts. The fifth type of killer, the power or control killer is motivated by the need for power and dominance over another person, and they gain greater gratification the longer the offence goes on (Canter & Wentink, 2004). Holmes and Holmes' types are not mutually exclusive, although they claim that each offender's behaviour will have a dominate theme that would relate to their background characteristics and from this they would be able to be classified into a distinct category (Canter & Wentink, 2004). While, the Holmes and Holmes classification system may use different variables and words to describe the crimes and offenders, it is largely influenced by the original FBI organised/disorganised typology (Canter, Alison, Alison, & Wentink, 2004).

Knight and Prentky (1990) classification model of sexual offenders is primarily based on the motivation of the offender and takes into account that many offenders may not fit into a discreet number of limited categories. Their classification model, The Massachusetts Treatment Center Rape Classification System (MTC:R3), is based on the assumption that while sex offenders are a heterogeneous group, there will be some similarities in those offenders who commit sexual assaults (Knight, 1999; Robertiello & Terry, 2007). Based on the examination of clinical and criminal files, standardised tests, clinical interviews, and self-report measures, The MTC: R3 includes four typologies: the opportunistic offender (low/high social competence) whose offences are impulsive and unplanned predatory acts, with immediate sexual gratification as the motivating factor; the pervasively angry offender, who

are motivated by anger and hatred, and will use violence regardless of victim resistance; and the vindictive offender (low/high social competence) motivated by power, control, and hatred, who are likely to physically harm, humiliate, and degrade their victims. The sexual offenders are subdivided into non-sadistic (low/high social competence) and the sadistic (fantasy/nonfantasy), both are preoccupied with sex and aggression, as well as physical inadequacy (Goodwill, Alison, & Beech, 2009; Robertiello & Terry, 2007). The MTC: R3 has been found to be a valid and reliable classification system for studying and classifying sexual offenders (Fargo, 2007; Knight, 1999), and a valuable framework in devising and providing treatment programmes for offenders (Canter, Bennell, Alison, & Reddy, 2003; Knight, 1999).

Ressler et al. (1988) have outlined the stages of generating a criminal profile used by the FBI. Stage one, *profiling inputs*, is about gathering and studying all the information that is relevant to solving the crime (e.g., crime scene information, victimology, forensic information, police reports, photos). Any information that deals with possible suspects should not be examined or included; as such information may unconsciously prejudice the profile and distort the impartiality and objectivity of the profile. Stage two is the *decision process models* in which all the profiling inputs are organised and arranged into significant patterns. It is during this stage that aspects of the type of homicide (e.g., single, double, triple, mass, spree, serial), the primary objective of the offender (e.g., whether homicide was primary or secondary motivation), the victim risk level (e.g., victim age, life style), and the risk of apprehension for the offender are being evaluated. The levels of escalation, the amount of time for the committing of the crime and location factors are also assessed during this stage. Stage three, *crime assessment*, involves the profiler reconstructing the sequences of events of the crime to establish just how certain things happened, how the people involved interacted with each other and to determine which category the crime fits into, organised vs. disorganised. The offender's motivation is considered at this stage and combined with the overall assessment of the crime scene. The fourth stage is the generation of the *criminal profile*. The background information, physical characteristics, habits, beliefs and values, pre-offending behaviour will be included and commented on based on the crime scene information provided. It is at this stage that investigative recommendations might also be made. The fifth stage in profile generation is the application of the profile to the *investigation*. The criminal profile is written into a report, provided to the agency and added into the investigation. The profiler will re-evaluate the profile if or when new information

becomes available. In the sixth and final stage, *apprehension*, the profile is evaluated for its accuracy and success at identifying the suspect.

1.3.1.1 Critique of the Early Criminal Investigative Approach

The original profiling conducted by the FBI, based on 36 interviews, was shaped by intuition, educated guesswork, and the agent's experience in criminal investigations (Holmes & De Burger, 1988). The typologies were not quantitatively tested nor based on stringent methodological research and researchers have subsequently found deficiencies within the profiles the FBI agents were producing (Alison & Canter, 1999; Muller, 2000).

The organised/disorganised dichotomy was based on a very small sample of interviewed sexual murderers and lacked any comparison or control group (Coleman & Norris, 2000). Canter et al. (2004) points out that the interviews relied on retrospective self-reports from the offenders which can be very inaccurate as they relied on the offender's memory about specific points in time and on 'trust' that the offender did not lie about their experiences and offences. In addition, no comparison group was used, thereby calling into question whether any of the variables are actually *specific* to adulthood sexual murder perpetration. As well, the majority of the sample used by Ressler, Burgess and Douglas did not experience social deviance in the early years of their lives, which has been found frequently in the backgrounds of sexual homicide perpetrators (Meloy, 2000), meaning that any conclusion drawn using this dichotomy will not be generalisable across any other sample or study. The original sample of men were identified as either organised or disorganised not based on any scientific research or theoretical underpinning but on the combination of experience and intuition of the officers involved in conducting the study (Muller, 2000). This intuitive separation was done a priori, before any statistical tests were used to analysis the differences between the two groups, which some argue led to a self-fulfilling prophecy, rather than a valid behavioural dichotomy (Kocsis, Irwin, & Hayes, 1998).

Canter (1994) also criticised this classification as the boundaries between the two distinctive typologies of serial murders are often blurred and non-distinct – many offenders would be a hybrid of more than one type (Canter et al., 2004). Neither group is particularly rich in detail, nor does the typology address key issues relating to the offender's identity, nor lend to the apprehension of the offender as they often leave the investigator with some abstract notion of the offender and the crime (Keppel & Walter, 1999). No published literature exists detailing just how these typologies are to be used in the evaluation of a crime

scene nor for the purposes of developing a profile (Palermo & Kocsis, 2005).The inability to confidently and consistently assign offenders to one or the other type of offender affects the ability to draw concrete conclusions about the offender's characteristics, thereby, questioning the pragmatic utility of this classification system.

Holmes and Holmes serial murder typology has also come under scrutiny. Hicks and Sales (2006) have questioned the reliability and validity of the four main types as there is no indication of any theoretical or empirical derivation. Canter and Wentink (2004) had five major criticisms of Holmes and Holmes' serial murder typology. The first criticism is the lack of any systematic account of how the interviews with 110 serial murders were conducted, and how these interviews led to their classification system. Secondly, there has been no direct empirical testing of the five typologies (until Canter and Wentink's) and therefore no verification of co-occurrence of any type. The terminology used to describe each typology is not fully described (i.e. act-focused versus process-focused) leading to uncertainty as to under what conditions and offender or offence should be assigned to one type or another. A further criticism was the overlap of features between the five typologies (i.e. controlled crime scene, body movement, specific victim were listed for both lust and power/control killer). The fifth criticism, is based around the inherent assumptions of a typology which Holmes and Holmes' typology fails to adhere to: "with each type, the characteristics that define that specific type are likely to co-occur with one another with regularity...and specific characteristics of one type are assumed not to co-occur with any frequency with the specified characteristics of another type" (Canter & Wentink, p. 493). Upon testing the five types using a multidimensional approach they found little evidence to support the distinction between the serial murders based on Holmes and Holmes 1989 typology.

Knight and Prentky's classification is not without its potential limitations. The interpretation and classification of the offender into one of the types in the MTC: R3 is partly subjective and based on the interpreter's experience, skill, and intuition, potentially leading to more unreliability (Goodwill et al., 2009). There are also concerns surrounding the generalisability to a wider population as the typologies were developed using only those offenders held within the MTC, which are a sample of "sexually dangerous" offenders and therefore not representative of other samples of sexual offenders (Barbaree, Seto, Serin, Amos, & Preston, 1994).

The publication of an FBI profiling methodology, described in both in Douglas et al. (1986) and Ressler et al.'s (1988) has been criticised for lack of description about how they constructed their typologies (e.g., organised/disorganised) (Beauregard & Proulx, 2002; Canter et al., 2004), the typical occurrence of many of the organised features in most serial murders, (Canter et al., 2004), and for its lack of theoretical backing (Canter, 1994; Muller, 2000). Muller (2000) also points out, the FBI methodology falls short of being scientific based on its lack of falsifiability (the ability of a theory to be tested – verified or falsified) and ability to propose hypotheses that are empirically testable. As much of the early FBI methodology was based on their experience and intuition, was not part of the public domain, and focused on perceived fantasies and sexual motivations, it was hard to empirically test. Despite its critics, the FBI model of profiling (Canter et al., 2004; Hicks & Sales, 2006) still remains influential.

1.3.2 Theory-Led Approach

While the original profiling and reports produced by the FBI might have been more experience led, other endeavours incorporated theory, by trying to address the behaviours, motivational continuum and the effects of learning on the offender (e.g., Fisher & Beech, 2007). These tried to address the criticism of the pragmatic approach of not being scientific (falsifiable) by producing and submitting their works into the criminal investigative approach to be peer-reviewed. Sex and aggression have been two categories of motivating factors that have been used to categorise rape (Cohen, Garfalo, Boucher, & Seghorn, 1971; Cohen, Seghorn, & Calamas, 1969). Groth, Burgess, and Holmstrom (1977), and Groth and Birnbaum (1979) also argue that power and anger are primary non-sexual motivations for rape. Each of these will occur in a variety of different forms throughout the rape literature. For example, anger and aggression may be evident in different forms of hostility, or destructive acts, such as verbal violence, gratuitous violence, tearing the victim's clothing, and acts meant to humiliate the victim (Canter et al., 2003; Canter & Heritage, 1990). Offenders driven primarily by sex may be preoccupied with sexual fantasies and sexual gratification or pleasure (Mann & Hollin, 2007). Power as a motivation may be expressed through behaviours that demonstrate the offender's control over the victim and control of the offence. These may include the use of various levels of coercion, the binding or gagging of the victim, and actions that suggest pre-planning and preparation (Canter et al., 2003). Sadistic aggression may be the extreme forms of these motivations.

The heterogeneity of the motivations behind sex offending has lead to the development of various typologies (Groth et al., 1977; Knight & Prentky, 1990) in which offending behaviours are interconnected with explanations of the intentions, motivations, and inferred offender characteristics (Canter, 1996). Groth et al.'s (1977; 1979) anger, power, and sadistic typology of rapists is one such categorisation. The Anger rapists' offences are characterised by physical brutality, with excessive amounts of violence and force (Palermo, 2003), while the sexual component is used as a means to express and discharge the offender's built up feelings of anger and rage. Often the sexual acts are viewed with disgust by the offender and are used to punish the victim (Pardue & Arrigo, 2008). The offender will often use a violent blitz attack, striking, beating and tearing at their victim. Alternatively, the offender will try to gain the trust of the victim using a confidence-style approach, talking to them and then suddenly attacking the victim. The rape is not usually fantasised about before hand, and the attacks tend to be of short duration and impulsive or spontaneous, triggered by some upsetting event involving a significant (female) figure in the offender's life. The anger rapist uses sex as their weapon and is fuelled by the motive of revenge (Groth & Birnbaum, 1979; Groth et al., 1977).

For the power rapist, the desire of the offender is to possess their victim sexually, not physically harm them. Often, the sexual acts become a way for the offender to compensate for their feelings of inadequacy, and becomes a way for the offender to express their level of mastery, strength, control, authority, identity and capability (Groth & Birnbaum, 1979). The amount of force used is only that to accomplish the sexual assault and gain control over the victim. Often this is done using verbal threats, intimidation with a weapon or physical force when needed. The victims of power rapists are often held for longer periods and repeatedly assaulted while held captive, further enforcing the idea of power and dominance over the victim.

The sexual attacks of the power rapists are often fantasised about before hand, with the victim initially resisting and then in spite of themselves, becoming less resistant and more receptive, and even gratefully submitting, to the offender's sexual prowess and embrace (Groth et al., 1977). The fantasised excitement, anxiety and anticipated pleasure is never fully realised for the offender and the offender is disappointed and finds little sexual satisfaction from the actual assault. The disappointment in the offence often leads to an escalation of violence used during the attacks as the offender becomes more desperate to achieve the fantasised experience that escapes them (Groth & Birnbaum, 1979). The victims of power

rapist tend to be approximately the same age as the offender or younger and where choice is based on availability, accessibility, and vulnerability (Palermo & Kocsis, 2005).

In the third type, the sadistic rapist, sexuality becomes fused with aggression in a manner that transforms anger and power into something that becomes erotic, although interconnected and often at the extremes of the various motivations and corresponding behaviours (Canter et al., 2003). The offender finds the maltreatment of their victim gratifying, and derives pleasure in their torment, anguish, distress, helplessness and suffering (Groth et al., 1977; Hazelwood & Burgess, 1987). Bondage, torture and various bizarre and ritualistic actions are the focus of the attacks, accompanied by explicitly abusive acts (e.g., biting, burning with cigarettes) and in extreme cases mutilation of specific areas of the victim's body (e.g., breasts, genitalia, buttocks) all of which play a part in his masturbatory fantasies. In addition, foreign objects may be used to penetrate the victim sexually. The excitement for the sadistic rapist comes from the infliction of pain upon their victim, which is meticulously planned beforehand. This type of rapist stalks, abducts, abuses, and even murders their victims, taking precautions against detection (Groth & Birnbaum, 1979). The infliction of pain can provide gratification, or can act as a necessary step to other forms of sexual activity. The sadistic rapist's excitement increases with the level of aggression they use, and the more powerful they feel. Typically, there is an increase in the aggression from one offence to the next, even though the attacks themselves may have many similar aspects. These individuals are usually able to hide their offending, and are often described as quite personable, likeable and friendly (Dietz, Hazelwood, & Warren, 1990; Groth & Birnbaum, 1979).

The original 1977 rapist typology of Groth, Burgess, and Holmstrom was reviewed and modified by Keppel and Walter (1999) which now includes four types of sexual murder (see Table 1.1):

Table 1.1

Keppel and Walter's Classification of Sexual Murder by Motivation, Victim Selection, and Level of Planning

	Motivation	**Victim Selection**	**Weapon Selection and Use**	**Level of Planning**	**Offender Characteristics**
Power Reassurance	Sexual gratification	Specific; may be acquaintance	Escalation of weapon selection and use	Planned rape; unplanned murder	Mid 20's; criminal history (sexual offences); socially isolated; unmarried; troubled Military service; use of porn
Power Assertive	Power, control, dominance	Stranger	Knife; rope; Brought to scene and used	Planned rape, unplanned murder	Early 20's; heavy use of alcohol and drugs; criminal history (burglary, theft); unsuccessful relationship history; social isolated; troubled Military service; antisocial; use of porn
Anger Retaliatory	Anger	Specific; symbolic of person they seek to take revenge on	Fists; blunt objects; knives	Planned rape; planned murder	Mid to late 20's; unsuccessful relationship history; criminal history (violent offences)
Anger Excitation (sadistic)	Sadistic sexual gratification	Specific; symbolic of offender's fantasies	Ropes; ligatures; knives; specialised tools of torture	Planned rape; planned murder	Variable age; potentially married; unmarked Military service; use of porn; potential drug use

1) *Power Reassurance*, represents a planned single rape of the victim with an unplanned death resulting because the victim resists the offender's attempts of sexual seduction. The sexual offence is a means for the rapist to express his sexual competence and when this fails, the subsequent killing permits him to sexually explore further and re-affirm his sexual competence by allowing him to carry out sexual acts that he was unable to while the victim was alive. Often the victim is someone that the offender watches, or they may be a casual acquaintance (e.g., neighbour) (Keppel & Walter, 1999).

2) *Power Assertive*, this is a planned rape with little concern shown for the victim. The killing of the victim is unplanned, often resulting from an increase in physical aggression

used to control the victim. The sexual assault serves as a basis to assert the perpetrator's masculinity and dominance over the victim (Keppel & Walter, 1999; Pardue & Arrigo, 2008). Often there are multiple antemortem rapes of the victim. The resulting death of the victim represents for the offender the success of asserting their power and control. The victim will often be a stranger and was chosen based on opportunity and surprise. The offender will spend very little time with the victim once death has been achieved (Keppel & Walter, 1999).

3) *Anger Retaliatory*, the rape and murder are both planned with the murder involving overkill. This attack is perpetrated out of vengeance, and the victim is symbolic of the person the offender is seeking to take revenge upon (Keppel & Walter, 1999).

4) *Anger Excitation (Sadistic)*, these sexual attacks and subsequent murder are planned. The infliction of pain, mutilation, and the terrorising of the victim is for the gratification of the offender; all serving to feed the offender's appetite for killing. There is prolonged contact with the victim, who is chosen based around the offender's fantasies, which can last hours or even days (Keppel & Walter, 1999).

1.3.2.1 Critique of the Theory-Led Approach

While the above approaches highlight possible motivations for sexual offending, such as power, anger and sadistic pleasure, attributed from the crime scene analysis, the classification lacks empirical support and evidence (Fisher & Beech, 2007). To be able to infer statistical associations there needs to be in place a system of analysis and measurement, this is where the classifications within this approach fall down – they provide descriptions of abstract concepts (e.g., anger; power), but do not provide a concrete way of measuring these concepts (Cheshire, 2004). The original typology developed by Groth et al. (1977) was not developed to specifically categorise an offender into one type or another, but as an explanation of the different facets of a sexual offender. Nor were the types mutually exclusive or consistent, again making it extremely hard to operationalise the different types. There is considerable overlap between the different types of Keppel and Walter's typology with regards to type of crime scene (e.g., organised versus disorganised), whether the offender has previous criminal histories, or had served in the military, their use of a weapon during their offence, and whether they have or had emotional or relational problems (Hicks & Sales, 2006). Therefore, the ability to draw conclusive inferences about the offender from the information from the crime scene is not feasible.

While, the descriptions provided within this approach attempt to incorporate theory around motivations and possible links with personality disorders, they are often still based on individual experience and knowledge of those developing the classifications, and as such are subject to the same limitations as the 'Early Investigative approach', as well as those of the Clinical approach outlined below.

1.3.3 Clinical Approach

This approach to profiling is heavily reliant on clinical judgment, training, knowledge, experience, and/or intuition, with the methods used varying according to the individual practitioner (Alison et al., 2010). The primary focus is on the specific details of each particular case. Profilers of this approach see each case as unique and believe they should be treated as such (Boon, 1997). As a result, this individualistic clinical approach leaves very few models to assess its scientific merit (Muller, 2000).

The psychodynamic approach to profiling is based on the clinical experience of the practitioner and is necessary to make accurate prediction (Turco, 1990). Turco's four step model was based around the notion that all violent behaviour was a manifestation of the mother-child struggle, where female victims were representations of all the negative elements of the mother. In the first step, the profiler considers the crime in its entirety, looking for the underlying psychodynamic processes. In the second step, the crime scene is assessed for any signs of a neurological or brain disorder. Thirdly, the profiler is required to analyse the crime scene in terms of the separation-individuation phase of the offender. Lastly, in an attempt to construct and compose a profile of the unknown offender, the demographic characteristics of the offender and victim are analysed.

In an attempt to set out a more systematic approach to profiling, in collaboration Copson, Badcock, Boon and Britton compared their individual methodology and produced a "series of steps and set[s] of features, principles and dangers which...other clinical profilers might care to subscribe to" (1997, p. 14). What developed out of this meeting was a 10-step procedural model (see Figure 1.1), with the centrepiece of the model being the inference of motive, which is seen as the key to understanding the offender. The inferred motive "allows the importation of factors from relevant literature as starting points for the development of suggested offender characteristics" (p. 15).

The *principles* of clinical profiling as described by Copson et al. (1997, p. 16) instruct that "each piece of advice should be:

(1) *Custom made*: the advice should not rely on the recycling of some kind of generic violent anti-social criminal stereotype;
(2) *Interactive:* at a range of levels of sophistication, depending on the officers' understanding of the psychological concepts at issue; and
(3) *Reflexive:* the advice should be dynamic, in so far as every element has a knock-on effect on every other element, and evolving, in that new information must lead to reconsideration not only of the element(s) of advice directly affected but of the construct as a whole." (p. 16).

Inherent in the principles and approach of clinical profiling are the subsequent dangers. The desire to please may lead to an undermining of objectivity, while the close interaction between the profiler and officer should be avoided in order to avoid any allegations that the profile was developed to fit an already known suspect. As well, it is imperative that all data and information be recorded, even though this is an extremely difficult and time-consuming process. Related to this point, is the failure to produce a summary document of the amassed information, thereby leaving the profile vulnerable to potential misinterpretation (Copson et al., 1997). While, Copson et al. (1997) lay out a model to follow, it does not identify a systematic process for the derivation of inferences as this is dependent on the individual clinician. What they provide instead is a set of principles and dangers, which have relevance in providing behavioural investigative advice.

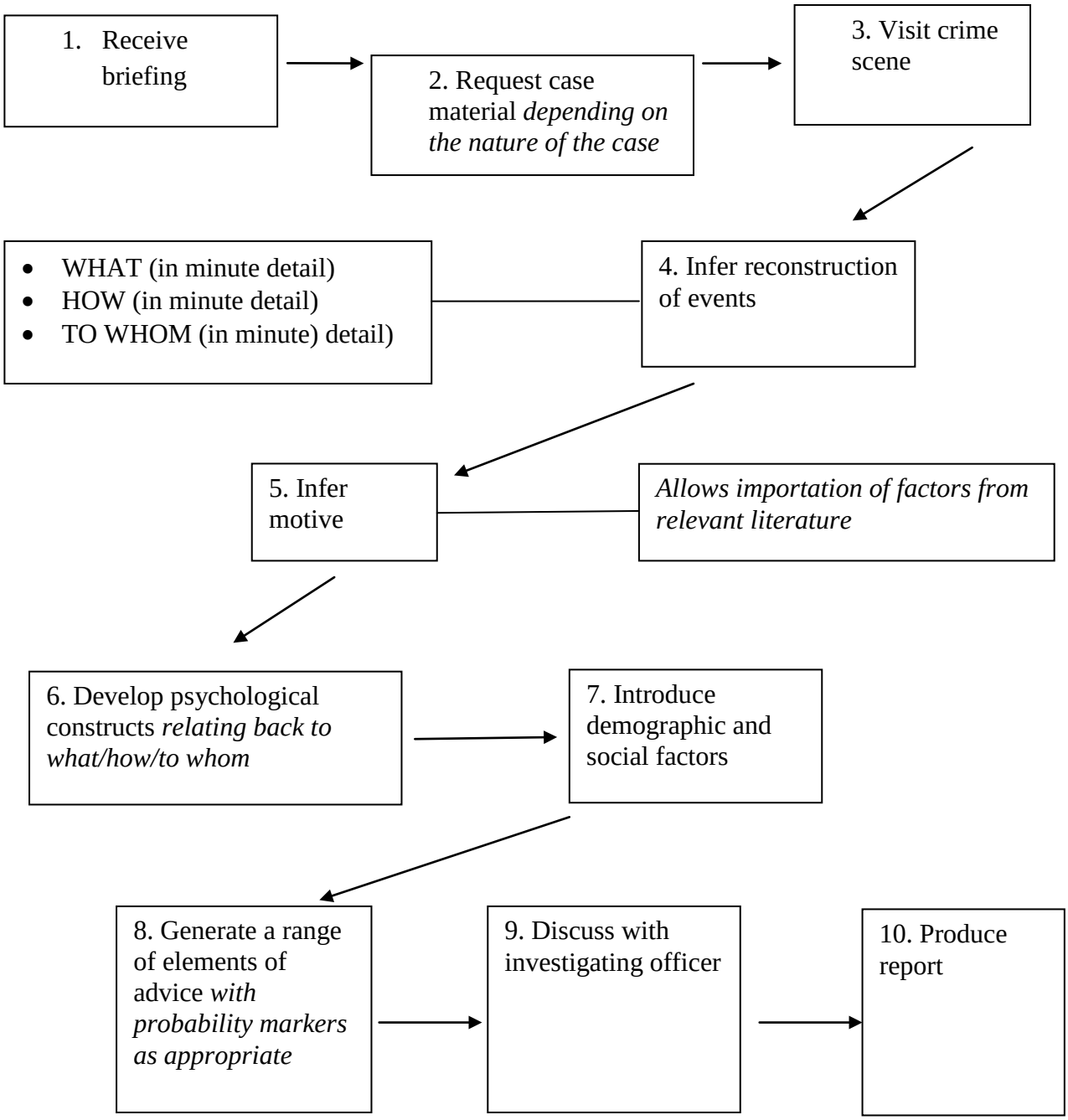


Figure 1.1. Ten Step Procedural Model (adapted from Copson et al., 1997)

A descriptive example of the clinical approach, as applied to sexual murderers, is the work of Clarke and Carter (2000), who identified four types of sexual murderers through their work with a sample of UK sexual offenders in a specialised treatment centre in Brixton Prison in London, UK. Their profiles for types of sexual murderer were as follows:

1) *Sexually motivated murderer*, engages in sophisticated and detailed masturbatory fantasies of killing unknown but specifically targeted victims, and who can be clearly seen as the sadistic type with a primary motivation to kill;
2) *Sexually triggered murderer*, who commits an aggressive, yet controlled murder, which uses killing as a means to keep the victim quiet and to avoid later detection.
3) *Grievance motivated murderer*, who commits an aggressive and uncontrolled murder but who has no prior intent to kill, yet does so because of something the victim does or says during the assault. Extreme violence and/or humiliation against the victim, usually taking a sexual theme (e.g., mutilation to the genitals), will be evident, suggesting a loss of control.
4) *Neuropsychological dysfunction sexual murderer*, which was developed around the unclear motivations of one offender who exhibited clear neuropsychological deficits, and does not necessarily depict a group of sexual offenders.

1.3.3.1 Critique of the Clinical Approach

In the same manner that the pragmatic approach relies on practical experience, knowledge, and intuition, so do those adhering to the clinical approach. This approach is primarily based on the individual clinician's experience and knowledge gained through working with individual clients, and the application of this to drawing conclusions or inferences from crime scene information. Copson et al. (1997), and to some extent Turco (1990), provide the building blocks of providing investigative advice, yet they fail to explicitly provide guidance on *how* one would actually produce a profile. The difficulty is how "to judge when and how a clinician's tacit knowledge gets translated into formalized, explicit, and falsifiable knowledge, as well as how this knowledge subsequently leads to the generation of useful offender profiles" (Alison, Goodwill, Almond, van den Heuvel, & Winter, 2010, p.118). This is a limitation born directly out of the fact that the inferences in practitioner driven profiling are made through the knowledge and experiences of the particular clinician (Alison, Goodwill, & Alison, 2005). This not only effects the ability to compare this approach with other approaches but also the ability to compare within the clinical approach itself (e.g., between cases).

Another issue with this approach, as well as the pragmatic/theory led approaches, is related to the Barnum[1] or the Forer effect[2] (Forer, 1949). People often assume the description provided of the sexual offender is based on a psychological assessment procedure, even if one has not been provided, and are therefore more inclined to accept it (Snook, Cullen, Bennell, Taylor, & Gendreau, 2008). Many of the profiles provided by these approaches are ambiguous and appear to describe any suspect (Alison et al., 2003; Alison, Smith, et al., 2003). Related to this personal validation effect, is the suggestion that exposure to ambiguous descriptions may increase the faith in psychological assessment methods and the perceptions of the individual clinician's views, even if the method is not valid or the profiler is not actually skilled (Snook et al., 2008). The ambiguous nature of many of the profiles can also be seen to support a confirmation bias[3], in which those using the profile may 'notice' or look for information contained within the profile that confirms their preconceptions or hypotheses. This has obvious implications if a criminal is then later apprehended, as any ambiguous information contained within the profile, may appear to retrospectively describe them (Snook et al., 2008).

1.3.4 Statistical Approach

The statistical/research approach to criminal profiling was pioneered by Canter (e.g., Canter, Bennell, Alison, & Reddy 2003; Canter & Heritage, 1990; Canter, Hughes, & Kirby, 1998; Canter & Ioannou, 2004). The statistical approach which asserts to be grounded in scientific methodology, is based on the multivariate analysis of the behavioural and other crime scene information to infer the characteristics, and psychological process, of unknown offenders (Ainsworth, 2001). The predictions are derived from the analysis of the characteristics and crime scene information of offenders who have previously committed crimes and those who been apprehended, and contrast these to those being investigated (Snook et al., 2008). Canter, established the field of 'Investigative Psychology', which emphasises the reliance on psychological principles and advocates the use of scientific principles (e.g., falsifiability, transparent processes, and evidence-based theory) in investigative focused research and its application, including offender profiling.

[1] "The phenomenon whereby people willingly accept personality interpretations comprised of vague statements with a high base-rate occurrence in the general population" (Snyder, Jae Shenkel, & Lowery, 1977, p. 104).

[2] Tendency for people to judge general, universally valid statements about personality as specific to themselves (Snook et al., 2008).

[3] See Wason, P.C. (1960). On the failure to eliminate hypotheses in a conceptual task. *The Quarterly Journal of Experimental Psychology, 12*, 129-140.

One of the earliest statistical based studies was carried out by Canter and Heritage (1990) in their development of a five-facet empirical classification for profiling sexual offenders. Twenty-seven sexual offenders' data, comprised of 66 assaults, were analysed and used as the basis for their model. A method based on Facet Theory and using a type of Multidimensional Scaling procedure (MDS) known as Smallest Space Analysis (SSA) (Lingoes, 1973; 1979) (see Shye, Elizur, & Hoffman, 1994, for in-depth review of this technique) was used to identify five facets of sexual offending based on the offenders' behaviours during the commission of their offences. "...Facet theory is a structural theory. In essence, it provides an approach to defining behavioural constructs and to testing hypotheses concerning the correspondence between behavioural definitions and empirical observations on variables representative of a construct" (Dancer, 1990, p. 367). Facets are sets of attributes, sharing semantic or perceptual properties, representing the underlying conceptual or semantic components of "some larger behavioural universe" (Dancer, 1990, p 367). For facets to be meaningful, they must "characterise various aspects of the content universe, they must represent conceptually distinct attributes of variables, and ...[they] must be mutually exclusive and jointly exhaustive in the context of a particular universe" (Dancer, 1990, p. 368).

Non-metric multidimensional scaling (MDS) is used as a structural method to visually conceptualise the structure of a content universe and the empirical structure of observations on that universe (Dancer, 1990). SSA, a non-metric statistical analysis, represents the relationship of every variable to every other variable as distances and points in a Euclidean space, with greater similarity between variables resulting in their closer proximity in the corresponding geometric space. The closer two points are in the space, the more likely the variables co-occur. SSA attempts to find the space with the minimum number of dimensions which preserves the rank order of relations (Guttman & Greenbaum, 1998). The distribution of points on an SSA plot becomes more specific as the distance between the points increases; generally, behaviours get more specific as they move farther from the centre of the plot and farther away from other points. An SSA plot with a tight clustering of points indicates a higher correlation between those points, and that the offending behaviours are more likely to co-occur with all the other behaviours. A plot with points towards the outer area of the space indicates behaviours, which are less likely to co-occur with all the other behaviours in the dataset. The advantage of SSA, and non-metric MDS, is that no assumptions about the underlying transformation function are made (Steyvers, 2002), and it can be used with ordinal or categorical data (Jaworska & Chupetlovska-Anastasova, 2009).

The early work of Canter and Heritage (1990), and the five facets found (intimacy, sexuality, violence, impersonal and criminality) was important as a first attempt to investigate the relationship between offender behaviours and their characteristics distinct from their inferred motives, which was a main criticism of the FBI and Clinical approaches. Since Canter's early work in the 1990's there have been several more authors (e.g., Beauregard & Proulx, 2002; Canter, Hughes, & Kirby, 1998; Kocsis, Cooksey, & Irwin, 2002; Lundrigan & Canter, 2001; Porter & Alison, 2004; Porter, Woodworth, Earle, Drugge, & Boer, 2003; Santilla, Hakkanen, Canter, & Elfgren, 2003; Youngs, 2004) producing academically peer-reviewed research into many aspects of offender profiling.

More recently, Canter (1994) found that rapists' behaviour could be defined in terms of the role the victim plays for the offender (e.g., person, victim/object, or vehicle) in his analysis of 105 cases of rape. This finding was based on the underlying interpersonal interactions between the offender and the victim, which he maintains is distinct from any motivational factors. Building on this theme of victim role, Canter, Bennell, Alison, and Reddy (2003) suggested that rape could be classified by theme as well as by the severity and type of victim violation (e.g., personal, physical, and sexual). The four themes of classification were: 1) hostility, in which the offender uses aggression and violence to demean/humiliate victim; 2) control, where behaviours are utilised to immobilise the victim; 3) theft, when the offender uses the opportunity for some instrumental gain; and 4) involvement, which has the offender attempting to form a pseudo-relationship with the victim. Although, almost a third of the rapes could not be classified as belonging to one theme, and a fifth mixed group was created.

Another study looking at the classification of sexual offenders was that of Beech, Oliver, Fisher and Beckett (2005) in their evaluation of the Sex Offender Treatment Programme (SOTP). They classified a sample of 170 sexual offenders (112 rapists and 58 sexual murderers) into three groups according to the main motivation for their offending using MCMI-III personality profiles. The grievance motivated offender was impulsive and vengeful and blamed others for their actions. They had low insight and were highly suspicious and resentful of others. The sexually motivated offenders planned and fantasised about their offence beforehand, chose their victims and tended to believe that men were entitled to have sex. They tended not to be particularly impulsive, hostile or aggressive and used violence for instrumental purposes (e.g., to avoid detection). The sadistically motivated offender, which consisted of sexual murderers only, was fascinated and aroused by sexual

violence, such as death and/or torture. They planned their offences, which often involved strangulation, mutilation and post-mortem sexual activity.

Ter Beek, Van Den Eshof and Mali (2010) looked at a sample of Dutch rapists. Their objective was to develop a statistical model that would be able to indicate the probability of predicting basic offender characteristics (spatial behaviour, criminal history, living situation) from observable crime characteristics, consisting of were modus operandi, victim-offender interaction, and violence. They looked at separate crime scene variables (method of approach, verbal behaviour, sexual behaviour, use of violence) and single offender characteristics (spatial behaviour-distance travelled, living situation, previous convictions), and found that their models for 'distance' and 'violence convictions' were promising. The study in general supports the claim that crime characteristics can be used to indicate probable offender characteristics.

1.3.4.1 Critique of Statistical Approach

While Canter and Alison, were highly critical of the FBI and clinical approaches of profiling, labelling them 'intuitive' (Alison & Canter, 1999) the statistical approach is not without its critics as well. Copson et al. (1997) make the point that statistics alone do not predict the future, and extrapolation from them does not support the notion that the past will be identical to the future, nor do they inherently support the underlying assumption that similar people will do things, such as committing crime, in similar ways. The use of statistics does not guarantee the inferences drawn will be valid or reliable, as these are assuming the data, itself, is consisting of relevant and significant components, and that the statistics applied are appropriate (Copson et al., 1997).

Sturidsson et al. (2006) attempted to replicate Canter and Heritage's (1990) study and their development of 5 theoretical elements of sexual offence behaviours using a sample of 146 unsolved, single victim, single perpetrator sexual assault cases collected in Sweden. The motivational dimensions initially presented by Canter and Heritage using multi-dimensional scaling (MDS) were not replicated. The lack of replication could be due to the differences between Sturidsson et al.'s sample and Canter and Heritage's. Also, Sturidsson et al.'s sample were all single offence sexual offenders, whereas, some of Canter and Heritage's sample were repeat sexual offenders, which is a problem in itself, as any apparent structure could be due to the consistency of these serial offenders. Although, upon review, Goodwill, Alison, and Humann (2009) found that Sturidsson et al.'s use of MDS was incorrect as they

had used ALSCAL procedure in SPSS, which produces a dissimilarity matrix, as opposed to using the PROXSCAL procedure, which can be used to produce a similarity matrix. This resulted in the variables of high frequency being positioned around the periphery of the plot, while low frequency variables were clustered more centrally, meaning the objects which are positioned closer together are more dissimilar – which is inconsistent with other MDS studies (e.g., Alison & Stein, 2001; Canter & Heritage, 1999; Canter, Alison, Alison, & Wentink, 2004; Canter, Bennell, Alison, & Reddy, 2003; Mokros & Alison, 2002), where the opposite solution is utilised. Their solution makes it difficult to interpret, as well as to argue that their results represent any display of co-occurrence, or similarity between variables, as these are scattered around the edge of the plot (see Goodwill, Alison, & Humann, 2009 for a more in-depth explanation).

There is question over the use of MDS, itself, as a statistical research method, because replication across several studies (Canter & Heritage, 1990; House, 1997; Kocsis, Cooksey, & Irwin, 2002) using similar variables has not been successful. Highly correlated variables tend to distort MDS, with these clustering heavily in the central area of the plots and less correlated variables being pushed outwards, making meaningful interpretation of the plot problematic. As well, the inclusion of too few variables, upon visual inspection of the graph and a latent dimension, makes determining rapist behaviour less apparent (Sturidsson et al., 2006). The interpretations of the behavioural themes from the plots, where the dividing lines are drawn, are both subjective and dependent on the individual researcher/profiler (Goodwill et al., 2009). MDS has been cited as being affected by cultural differences (Kocsis et al., 2002), the selection and quality of data included in the analysis, as well as how the raw data was recorded and coded (Sturidsson et al., 2006). The sample or data used in the analysis, and generalised into models, are based on a set of known offenders, and therefore, may not be representative of all offenders (Wilson & Alison, 2004).

1.3.5 The Current Situation in the United Kingdom: Behavioural Investigative Advice

In the UK, offender profiling is currently provided to police forces by the Association of Chief Police Officers (ACPO), and through the NCPE Crime Operations who recruit individuals as full time Behavioural Investigative Advisors (BIAs) (Rainbow, 2007). BIAs provide investigative support and advice which is grounded in behavioural sciences and in theory. They are a professional group of individuals with vast experience of serious crime and the knowledge to integrate their behavioural advice into an investigation (Rainbow,

2007). They have the potential to contribute to many aspects of the investigative process, not just in the generation of an inferred list of offender characteristics. While, BIA still does involve what is typically considered to be offender profiling (e.g., crime scene assessment, offender and victimology, suspect prioritisation) it also involves providing investigative suggestions, interview advice, risk assessment, media advice, and familial DNA prioritisation (Rainbow & Gregory, 2009). This broader definition recognises the wider range of evidence-based methods by which psychologists might provide advice with regards to various aspects of a criminal investigation (Alison, McLean, & Almond, 2007).

The use of BIAs in investigations does have some limitations. While, the involvement of BIAs in cases of serious crimes has shown to be beneficial, their involvement is best suited to crimes where sufficient offender behaviour is evident and where sufficient discrimination exists between offenders within a certain crime type (Rainbow & Gregory, 2009). As well, BIA reports only provide the most likely *type* of individual, there may be significant variance found in a minority of cases with regards to the reported prioritisations, and do not provide information regarding the guilt or innocence of an individual. The advice provided is for the increased understanding of an event and for informing and prioritising investigative decision making and actions (Rainbow & Gregory, 2009).

Each of the approaches has their inherent strengths and weaknesses which have been outlined above. That said there are more general critiques of offender profiling that are consistent across the different approaches.

1.4 Critique of Offender Profiling in General

This section will look at the pragmatic use and validity of profiles, and the quality of data used in profile development.

1.4.1 Pragmatic Use and Validity

There are a number of general drawbacks within Offender Profiling research as a whole. Two important concepts that need to be considered are 1) the validity of the profile, the accuracy of predicting the characteristics of unknown offenders, and 2) the utility of the information contained within the profile, whether it can be used pragmatically by investigators (Kocsis & Palermo, 2007). There have only been a handful of studies, which have directly attempted to test the validity and accuracy of profiles and the abilities of profilers as compared to non-

profiling groups (e.g., Copson, 1995; Kocsis, 2004; Kocsis, Irwin, Hayes, & Nunn, 2000; Pinizzott & Finkel, 1990). Bennell, Jones, Taylor, and Snook (2006) critic the research by Kocsis and colleagues, in the fact that they state their profiler groups are more accurate than the comparison groups, often students, police officers, or psychologists, yet this is not in terms of "absolute" accuracy of the predictions made by the profiler, but between the relative predictions made between the different groups. So while, it may look like the profilers are more accurate in their predictions, they are still only found to be accurate approximately 45% of the time (Bennell et al., 2006). Bennell et al. argue that this level of accuracy is not high enough to be investigatively useful, as half of the information provided was not useful, and there is no minimum useful accuracy level set. Some of these studies suffer from internal and external validity problems. The sample of professional profilers used is quite often low (Dowden et al., 2007; Kocsis) and may not be representative. As well, there is a lack of an objective and tested criteria with which to test a sample of actual profiles against (Homant & Kennedy, 1998) as many of the studies testing the accuracy and validity of profiles are artificial in nature (Dowden et al., 2007; Kocsis, 2003), limiting their external validity.

The FBI claim to have tested the validity of profiles composed by their Behavioural Science Unit in an internal report, with the finding of an 80% degree of accuracy. Yet, this report has never been made public and is only known as it is mentioned in Pinizzotto's (1984) work. As this document has not been made public, or made available for scrutiny, the claims of accuracy cannot be verified. There are many examples of profiles in true-crime stories or biographies in which claims of support of profiling accuracy are made, although the ability to confirm the validity of the profiling techniques used or the profilers themselves is limited, as a large number of these true-crime biographies are written by profilers themselves (e.g. 'The Jigsaw Man' and 'Picking up the Pieces' by Paul Britton).

A study by Alison, Smith and Morgan (2010) raises cause for concern when it comes to the perceived accuracy and usefulness of offender profiles. They found in two separate studies that the majority of officers and forensic professionals rated both fabricated and genuine profiles as at least somewhat (75%) accurate despite being given distinctly different descriptions of the criminal, and the majority rated the profile as useful. This relates back to the *perceived* accuracy and utility of offender profiles mentioned earlier in this chapter. Regardless, of the mixed support for the accuracy of offender profiles, their usefulness as an investigative tool is also in debate. Some studies show that investigating officers utilise profiles because they believe they work, and are useful in identifying and prioritising suspects (Copson, 1995; Jackson et al., 2003). For those officers that do not necessarily believe that

profiles are useful, yet still use them, this could be because they feel there is nothing lost by using all available investigative techniques (Snook et al., 2008).

1.4.2 Quality of Data

The quality of data used in profiling research is often limited by what is available, how it can be coded and how rich and/or robust it is. The type of data most often utilised in offender profiling research comes from law enforcement agencies where there are variations in collection protocols across the different agencies (e.g., no systematic guidelines for information collection; time constraints), resulting in lowered internal validity. The evidence is collected for the purpose of a police investigation, not for research purposes, and often with little contextual grounding or concern with its quality or reliability (Alison, Snook, & Stein, 2001). The result is low levels of validity, especially external validity, which affects the generalisability of any results (Dowden et al., 2007). Without the ability to generalise, and extend the results obtained from studies and make predictions about the larger population of offenders, the utility of offender profiling is called into question. For example, the original FBI organised/disorganised dichotomy may have been accurate in so much as it explained some of the facets of the 36 individual sexual offenders on which it was based, but it severely lacked any external validity, or the ability to be used to predict behaviours or characteristics of offenders not included in the original sample. A similar argument can be made with Groth et al.'s (1977), or Clarke and Carter's (2000) or Canter and Heritage's (1990) classifications.

Many studies have limited sample sizes due to the nature of the data collection. While the majority of those with access to the appropriate data are Law Enforcement agencies, the majority of the research is often done by professionals in the academic world. There are many data protection issues, which must be addressed for academics to gain access to appropriate data. Even after access has been granted, the quality of the data still must be taken into consideration. These data can only be as good as what is available to the officers at the time of the investigation. What is collected is often inaccurate and not in a form that is conducive for empirical research (Mokros & Alison, 2002). Equally, the main advantage in using evidence collected during an investigation is that it represents *naturally* occurring behaviours exhibited by an actual offender; not a controlled subject in a controlled laboratory (Alison et al., 2001). At present, the effective utilisation of the data requires careful consideration of the biases potentially inherent, and any conclusions drawn from research must keep these limitations in mind when making generalisations (Alison, et al., 2003).

1.5 Summary

Is offender profiling effective? An important question when one considers the faith in profiles, and the status it is given in forensic investigations (Snook et al., 2008). While, some of the preceding studies may have limited results, they show there is the possibility of inferring some offender characteristics from crime scene behaviour and providing (albeit limited) support to the underlying assumptions of offender profiling. The area of Offender Profiling generates a lot of interest in both the academic field and the everyday world as a result of a few highly prolific cases (e.g., Jack the Ripper, Boston strangler). Historically profiling has been based on 'intuition' and experience, but as the field of Offender Profiling has matured the need to be more scientific in approach has led to the development of models/typologies of offender behaviour based around the findings of empirical studies. Different approaches have attempted to define, and operationalise offender profiling based on the individual principles inherent in the approach. The Criminal Investigative approach initially relied heavily on intuition and experience of the FBI agents and who researchers who started publishing in the area of profiling. Although, the development of large databases and systems containing information on serial and violent crime/criminals, such as the FBI's Violent Criminal Apprehension Program (ViCAP) (Collins, Johnson, Choy, Davidson, & MacKay, 1998; Howlett, Hanfland, & Ressler, 1986) and the Violent Crime Linkage System (ViCLAS) in Canada (RCMP; Collins et al., 1998), has allowed for the utilisation of a lot of information and data, and the drawing upon of many of the same theories and models that many in the academic field and other areas of investigative psychology use (Snook, Luther, House, Bennell, & Taylor, 2012). The Clinical approach developed a model of offender profiling centered on the concept of motives. While, the Statistical approach aimed to provide a testable psychological and scientific framework for inferring characteristics. None of the approaches alone explain the complexities of offending. The FBI/Pragmatic approaches bring with them a multitude of investigative experience; the Clinical an abundance of medical and intimate client-based knowledge; while the Statistical approach provides a means in which to more objectively measure and examine offending behaviour. Without the experience, knowledge, and information that is engrained and gathered in the first two approaches, the ability to know which variables to look for or code for would be lost. While the latter statistical approach, allows for the removal of the individual, the individual opinions and biases, and for an objective examination of the patterns and findings. Therefore, the way forward should seek to integrate all of the approaches (Alison, West, & Goodwill, 2004;

Alison et al., 2010). Together the approaches strengthen each other and give weight and support to each other and more importantly, offender profiling as a whole. This will be further examined in the next chapter.

Chapter 2: Directions for Offender Profiling and Current Thesis

2. Introduction

In its simplest form Offender Profiling is the determination of offender characteristics from the behaviour offenders exhibit and leave indication of at a crime scene. The ability to make such inferences requires both consistency in offending behaviour and distinctiveness. Simply expressed offender profiling is represented by Canter's (2011) "profiling equation", or abbreviated as the "A → C equation"; where the inferences, represented by the arrow, are derived from the actions, such as the crime location, time, victimology, etc., which are informative about the characteristics of the offender (Canter, 2004; 2011). Although, this may be better described as a decision pathway or process, as strictly speaking it is not a true equation as the two sides do not completely equate. Though, the process can be described as bi-directional based on the stated premise that the actions reflect the characteristics of the offender, and the offender characteristics will also influence the actions of the offender. Offender Profiling has been largely based upon personality and trait approaches, which see the basic units of personality, and therefore, behaviour, as largely non-situational and based on context-free dispositional constructs (Alison, Bennell, Mokros, & Ormerod, 2002; Davies et al., 1997; Pervin, 2002). There is evidence that behaviour can be predicted across situations based on scores of basic trait dimensions, often cited in employment and job performance literature (Hogan, 1991; Hogan & Ones, 1997). One explanation is that once self-schemas become well organised, through our experiences, we selectively respond to information in ways congruent with our expectations and self-views (Fiske & Taylor, 1991). With regards to longitudinal stability, there is moderate support for the stability of temperamental characteristics observed in childhood and personality in young adulthood (Caspi & Silva, 1995), even connections with childhood temperament – measured as early as age 3- and criminal behaviour (Block, Block, & Keyes, 1988; Caspi, 2000; Raine, Reyonds, Venables, Mednick, & Farrington, 1998). However, there is greater support for stability of personality throughout adulthood (Alwin, Cohen, & Newcomb, 1991; Glenn, 1980; Pervin, 2002). As we age we become more consistent and less likely to change, but there still remains the potential *to* change (Roberts & Del Vecchio, 2000).People unconsciously filter experiences, elicit responses from others, and choose certain life paths which are consistent with their personality, so even the person-environment interactions can be seen to support a level of

continuity in personality, as well as allowing for the potential for change (Caspi & Roberts, 2001).

There is a distinction between personality and a personality disorder (PD) that should be noted, although both will influence behaviour and the understanding of that behaviour. Personality is a set of distinctive traits and characteristics that distinguishes an individual, or a nation or a group and encompasses fairly consistent patterns of thoughts, feelings, and behaviours (Merriam-Webster). Since Cattell's early work (1943; 1945a b), the 'Big Five' factors (openness, conscientiousness, extraversion, agreeableness, and neuroticism; OCEAN) have been found and replicated by various researchers (e.g., DeRaad, Perugini, Hrebickova, Szaroca, 1998; Digman & Takemoto-Chock, 1981; Norman, 1963; Saucier & Goldberg, 1996). After a dormant period they were developed into the taxonomy that it is today by Costa and McCrae (1992)[4].

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychological Association, 2000) personality disorders are enduring, longstanding maladaptive patterns of perceiving and responding to other people, and behaviours associated with significant distress or disturbance in self and interpersonal functioning. Where personality and PDs merge can be seen in the different criteria for the PDs as these are linked to personality and personality traits (Costa &McCrae, 1990). Borderline and avoidant PDs have been found to be associated neuroticism from the five-factor model of personality, and antisocial, paranoid, and narcissistic disorders have been linked with low agreeableness. While, schizotypal PD has been found to be neurotic and introverted (Costa & McCrae, 1990). Linking personality, PDs, and offending, it's been found that avoidant, schizoid, and dependent tendencies have been associated with sadistic rapists, narcissism, paranoia, and antisocial tendencies with opportunistic offenders (Proulx, St-Yves, Guay, & Ouimet, 1999), and violent sexual offenders, as opposed to less violent sexual offenders, tend to score higher on histrionic, narcissistic, antisocial, and paranoid tendencies (Langevin, Paitich, & Russon, 1985; Proulx, Aubut, Perron, & McKibben, 1994).

The relationship from crime scene aspects to offender characteristics is not as straight forward as it initially appeared to be (Goodwill & Alison, 2007; Mokros & Alison, 2002). The lack of substantial support for the assumption of homology, and the imperfect support found for behavioural consistency is evidence of this – there are other influencing factors not

[4] See John, O.P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In. L.A. Pervin, & O.P. John (Eds.), *Handbook of personality: Theory, and research (2nd edition)* (pp.102-138). New York: Guildford Press, for a more in-depth summary of the development of the Big Five.

being considered or included in this relationship. A better definition of offender profiling might be “the application of psychological theory and behavioural evidence analysis to the investigation and reconstruction of physical evidence that relates to a particular offender’s crime scene characteristics, victimology, motivation and behaviour patterns” (Gee & Belofastov, 2007; pp. 62). However, even this definition leaves out key aspects of information that many profiles overlook – offender perception and offence context. The influence of such factors is recognised in models of personality (e.g., Mischel and Shoda’s [1995] CAPS model).

Traditional personality functioning is seen as more of a static consistent model, while more current conceptions of personality and behaviour, see behaviour as more dynamic and conditional on the individual *and* the specific situations in which they find themselves (Shoda, Mischel, & Wright, 1994). The debate is whether people show consistency in their behaviour across situations because of inherent internal personality traits (the person side of the debate), or whether behavioural consistency is affected by the situation, is not inherent in the person, and therefore is contextually variable (the situation side of the debate) (Pervin, 2002). While this debate has not completely dissipated, there has been some headway in an attempt to reconcile the two camps. Allport, Cattell, and Eysenck (founding influences of personality psychology) all recognise to some degree the importance of the situation and the variability of individual behaviour. Allport (1961) acknowledged that our personality dispositions are never completely consistent, but also empathised that we do exhibit relatively enduring patterns of thoughts, feelings, and behaviour (Roberts & Caspi, 2001). Personality interactionists believe the more important question is “*how* do characteristics of the person interact with characteristics of the situation”(Pervin, 2002, p. 78) which allows for the multiple factors that contribute to the exhibition of behaviour (Ahadi & Diener, 1989), and for the interaction between both the internal personal traits, and the influence of the situation on a person’s behaviour.

The link between A and C represents a complex and challenging set of variables and circumstances that work to modulate criminal behaviour – a relationship largely ignored in the current pool of literature. The original idea that the way a person thinks directs the person’s behaviour (Douglas et al., 1986) does not account for the multitude of other variables that are present at any given moment which influence behaviour. No two offenders are exactly alike; they do not do the very same thing in the very same way or for the very same reasons throughout their offences. Although, if the situation in which the offender’s crimes are committed are similar, and have the same or similar psychological meaning for

them, it would follow that behavioural consistency in this circumstance would be expected (Mischel & Shoda, 1995; Shoda, Mischel, & Wright, 1994)[5]. Even when the same discernible behaviour is observed there can be several different reasons for why and how this behaviour was brought about – similar acts can occur for different reasons, and different acts can happen to serve similar purposes (Douglas et al., 1986). If this is true, there are implications for offender profiling. While no professional will argue against the fact that people do not respond *exactly* the same way in exactly the same situations, this does not mean there are not consistencies within a person's response. Looking at overarching behavioural domains, personality psychology has found there is variation in the consistency of non-criminal behaviour (Funder & Colvin, 1991; Furr & Funder, 2004), concurrently studies looking at criminal behaviours, such as Grubin et al. (2001) and Bennell and Canter (2002), have also found this. Thus, while there will be variations across people's behaviours, and more specifically in the ways offenders commit their crimes, there will also be many significant similarities. When considering the differences and similarities among people, and offenders, given similar characteristics and backgrounds, similar thought processes, and similar situations, we could expect a similar *degree* and *level* of responses and behaviours to occur, both across offenders, and within a single offender[6].

In an attempt to integrate the approaches to personality theory, and understand the stable intra-individual patterns of variability inherent in an individual's behaviour across situations more dynamic conceptualisations of trait theory have been developed. One such model is Mischel and Shoda (1995; 1998) cognitive-affective processing system (CAPS)[7]. CAPS places the conception of personality within the social world in order to contextualise the individual and allow the examination of the reciprocal interaction between person-environment (Mischel & Shoda, 2008). Person variables, such as how people construe/encode situations and themselves, are important, but these are components of a dynamic and interconnected organised system of relationships, that interacts with the social-psychological situations (Mischel & Shoda, 2008). CAPS theory assumes that people differ in the ease with which cognitive and affective mental representations or units, CAUs, become active, but also that individual differences reflect the accessibility of CAUs as well as the distinctive organisation of relationships among them (this is the stable structure of the personality system) (Mischel & Shoda, 2008). The CAUs are comprised of constructs, expectations, and

[5] See Chapter 1 for a review of the support for the Behavioural Consistency assumption.
[6] See Chapter 1 for a review of the support for the Homology Assumption.
[7] The CAPS model has been the focus in much Offender Profiling discussions (e.g., Alison et al., 2002; Markson, Woodhams, & Bond, 2010; Sorochinski & Salfati, 2010; Woodhams, 2012) and has been chosen as a focus of the current thesis so the findings can be related to what has been done before.

beliefs of how the person sees themselves, people and events around them, and the situations they encounter. They encompass the affects, the feelings, emotions and affective responses, as well as, the desired outcomes and goals of the individual. The potential behaviours and the *if...then* scripts and strategies for attaining outcomes, and one's own behaviour and internal states are also a part of the CAUs (Mendoza-Denton & Mischel, 2007). The CAPS theory postulates that the meanings of situations will vary and have different impacts between people, as well as within an individual, and on different occasions (Eaton, South, & Krueger, 2009). This means that different situations will activate different CAUs; producing an *if.....then* behavioural contingency. Therefore, when the situations (the *if*s) change, so will the *thens* (Mischel & Shoda, 2008). CAPS theory highlights three points: 1) personality systems are understood in terms of their cognitive-affective units, as well as, the coherent organisation of those units; 2) this system functions and interacts with the social environment. Lastly, 3) people will behave in variable and distinctive manners which characterise that individual (Cervone, 2005).

The CAPS model is one paradigm for theoretically testing and supporting the assumptions of Offender Profiling as it allows for both behavioural consistency within the individual, even cross-situationally. In addition, it provides logical underpinning for the hypotheses of behavioural distinctiveness and similarities across crime types and between offenders.

2.1 Rationale for Current Research

Psychological theory therefore suggests the link between offence and offender characteristics is more complex than has previously been depicted in offender profiling literature. The cognitive-affective units, such as the perceptions and motivations of the offender, and the context of the situation will all exert their own authority to affect the way in which the offender 'reaches' their decision to offend, who the offender 'chooses' to offend against and how the offence is carried out. As outlined above, the CAPS model gives a theoretical underpinning for the reciprocal relationship between the person-environment and resulting behaviour. While, the relationship between certain offence characteristics, offender characteristics, and contextual variables are not always clear, the one's chosen for inclusion in the current study, and in the following chapters, are often those that would be present in an offender profile of a sexual offender (see Ault & Reese, 1980; Davies, 1999; Ressler, Burgess, & Douglas, 1988; Ressler & Douglas, 1985) and the information contained in police

files (Mokros & Alison, 2002). As the CAPS model stands, it provides a "general framework for building a more cumulative, integrative science of persons interacting dynamically with their socio-cultural psychological life situations, each reciprocally influencing the other" (Mischel, Mendoza-Denton, & Hong, 2009, p. 1366).

Figure 2.1 represents an outline of a revised A to C equation. The revised equation illustrates how the relationship between A to C should be seen as a non-direct relationship, outlining the interplay between the person's demographics, dispositions, situations and contexts encountered. The relationship between A and C is influenced/mediated by Perceptions, Motivations and Context, which I will now examine in more detail.

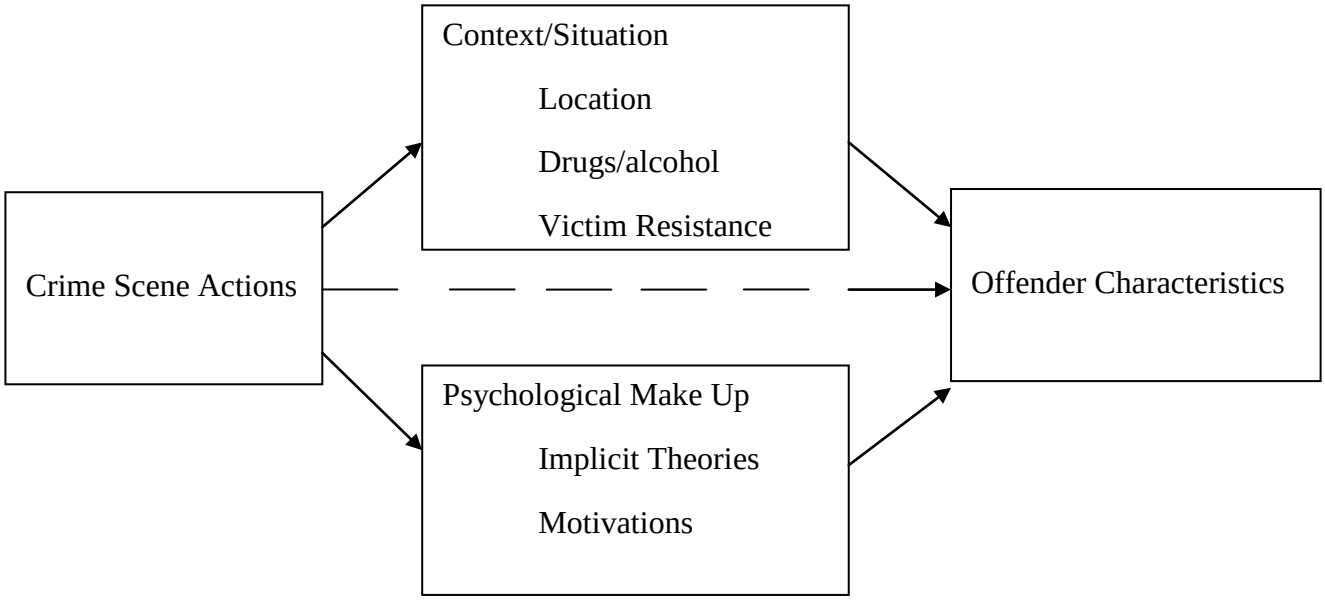


Figure 2.1 Revised A → C: Process of Offender Profiling incorporating Perceptions, Motivations, and Context

The concepts described below as potential influencing factors provide more of a holistic approach to offender profiling which is grounded in psychological and sociological theory. In the absence of models examining the reasons why we should be able to infer socio-demographic variables from crime scene characteristics and aspects so often cited in profiles,

these provide a building point based in theory and not just conjecture to start linking characteristics with crime scene aspects.

2.2 Context

As outlined by the CAPS model, as well as other theories of behaviour (e.g., Routine Activity Theory, Cohen & Felson, 1979; Rational Choice Approach, Clarke & Felson, 1993), the context in which a crime occurs plays a significant role as to how the offence is actually committed. Within our daily lives, we engage in legitimate activities which dictate where we will be. For offenders, this is also mixed with the locations of their illegitimate activities, and the locations of potential victims (Blackburn, 1993; Cohen & Felson, 1979). Criminal violations are routine activities, which share many of the same attributes of and are interdependent with, other legitimate routine activities. People participate in legitimate routine activities daily to satisfy their personal needs, through work, childrearing, shopping or leisure pursuits and it is these routine daily activities which determine where and when people are, and what they are doing, and hence the location and vulnerability of personal and property targets (Blackburn, 1993). When deciding to commit a crime, an offender must decide (either implicitly or explicitly) what the various options of action are as well as their corresponding consequences. During this process, different situational and contextual variables can influence the consequences of alternative courses of action and thus the decisions made and the actions taken (Cornish & Clarke, 1987; Clarke & Felson, 1993). Therefore, context acts a mediating unit, which interacts with the personality processes of the individual resulting in the behavioural expressions exhibited by that person (Mendoza-Denton & Mischel, 2007). Under this approach, sexual offending cannot be understood outside or apart from the ecology of everyday life (Sampson, 2001).

Looking specifically at the relationship between crime scene information and offender characteristics, Goodwill and Alison (2007) found that this relationship is moderated by other aspects of the crime, more specifically the situation and context surrounding the crime. They found that victim age can accurately predict offender age, within three years, when the level of planning *and* the use of (excessive) violence is taken into consideration as moderating factors. Goodwill and Alison found that in a planned offence, victim choice reveals more detail about the psychological motivation of the offender than in an offence that has no indication of planning. The interaction between the offender and his victim reflects another person-situation influence on offending behaviour. The offender's response to the

victim's behaviour (resistance/compliance) will be defined by the offender's attitudes and roles they place upon their victim (Canter, 1989; Davies, 1992). In her 1992 paper, Davies describes a serial rapist who changed his behaviour as a result of the victims' behaviour; with those who had resisted more heavily he was more violent and threatening with, while those that had been compliant, he used minimal aggression towards, and with one he even arranged a date to see her again. Body disposal patterns of sexual murderers were also found to be related to the interaction between the situation and the offender characteristics (Beauregard & Field, 2008). Offenders in a relationship at the time of their offence and who offended against strangers (excluding prostitutes) were more likely to move the body from the offence location. Whereas, the victim's body was more likely to be left at the crime scene if the victim and offender had had an altercation prior to the offence, if the offence had happened at night and if the victim was older (Beauregard & Field, 2008).

The context or situation that a crime occurs in is a highly important variable to consider. The person may have the motivation to offend, and the acquired perceptions to offend, but without the "appropriate" situational or contextual variables needed to necessitate the offence behaviour, the question remains if that offence would still occur. It is important to include the context and situation of offending because, according to CAPS, specific psychological meanings of the situation will result in specific categories of behaviours – meaning if similar situations are encountered one can infer that similar behaviour will also ensue. Pragmatically, this would allow investigators the potential to predict how an offender may behave in future offences, as well, as link previous offences to that offender based on behavioural consistency.

2.3 Perceptions

From an early age our knowledge is organised into theories, which help facilitate our understanding of the world and allows us to explain and understand our social environment and make predictions about potential future events (Beech, Fisher, & Ward, 2005). Ward (2000) suggests that the perceptions, or schemas, a person possesses are in fact underlying implicit theories that the person holds about the world. These give control and development to a person's internal life, and link the individual with their social environment and give meaning for the events of their lives (Beech, Fisher, & Ward, 2005). Simply put, the perceptions of ourselves, and our environment, components of our CAUs, will ultimately dictate how we react and behave in different situations we encounter (Mischel & Shoda,

1995). This is based on the ease with which these CAUs becomes activated as depicted by their relevance to the given situation, resulting in subsequent behaviour (Mendoza-Denton & Mischel, 2007).

These theories will directly influence any assumptions a perpetrator will make about their victim's internal states, what they predict the victim will do, and will partially affect how they react to their victim's responses (Blumenthal, Gudjonsson, & Burns, 1999). These implicit theories represent our comprehension of close relationships, other people's actions, and the structure of our world, and the nature of mental states (Ward, 2000). They are also influenced by the different motivational aspects of a given interaction between the person-environment.

2.4 Motivations

Motives and motivation explain why we behave in the manner in which we do. They influence our cognition and action, as well as, our thinking and our behaviour, and are an important aspect of CAPS and the construals activated during the processing of social information (Mischel et al., 2009). Motivations play a role in why we respond differentially at various times to the same stimulus (Pervin, 2002). "The concept of motivation suggests that there are internal qualities that play an important role in the activation and regulation of behaviour" (Pervin, 2002, p.36).

The broadest categorisation of motivation within sexual offending is that of the sexual versus non-sexual primary motive. Historically the most cited motivations behind sexual offences were the sexual thrill or sexual intoxication that accompanies the sexual offence (Scully & Marolla, 1985). In favour of an underlying sexual motivation is that if control or domination over another person was the motivation behind sexual offending, then we should see an equal distribution of male and female victims, at various ages, not just reproductive-aged females who tend to be the majority category of victim for sexual offences (Shackleford, 2002; Wilson, Daly, & Scheib, 1997). In addition, the fact that there is always a sexual component, with the offender often reaching orgasm, is cited as another supporting factor for the sexually motivated hypothesis (Myers, Husted, Safarik, & O'Toole, 2006) . Other motivations such as power and control over victims, or the expression of anger or revenge towards the victims have also been given support (Myers et al., 2006). Groth and Birnbaum (1979) observed that in *all* cases of forcible rape, power, anger and sexuality are always present to some degree, and that rape is a crime of violence. Myers et al. (2006) argue

the primary motivation behind sexual offending behaviours is that of sadistic pleasure. Any other motivation (e.g., anger, dominance, sexuality) has secondary purposes – to either increase or heighten the sexual arousal, or are of practical use in managing the victim so the offence can be carried out.

While motivations themselves are internal constructs that cannot be themselves tested, they can be inferred from observed concrete behaviour (Amir, 1971). They can be inferred from the behaviour of someone with what would be expected in particular situation if that person was motivated in a particular manner (Palmer, 1988). Motivations impel us to act, there are motivations behind every offence committed and it is these motivations, which hold precious insight into the mind, the thoughts, feelings, and the behaviours of the offender and their offences, as these are an external presentation of internal constructs.

2.5 Conclusions

The concept that diverse variables influence behaviour is not a new one, and similarities can be found between the revised A to C equation (Fig 2.1.) and an aetiological model of risk for sexual offenders developed by Beech and Ward (2004) (Figure 2.2). The vulnerability factors of Beech and Ward's model are similar to the perception variables in Figure 2.1 and the CAUs of the CAPS model. Offence-supportive cognitions, grounded in a set of core schemas or implicit theories held by the offender, generate the cognitive distortions that are measured at the surface level (Ward, Polaschek, & Beech, 2006). The state acute dynamic factors can be equated with motivations, and the triggering/contextual risk factors with the context variables. For example, the need for intimacy may motivate a sexual offender to commit rape in an attempt to develop a pseudo-intimate relationship with their victim (Canter & Heritage, 1990). In this case, the primary motivation for the rape is the desire for social contact (Marshall, 1989), and the offender may ask the victim questions, compliment the victim, kiss the victim, and even apologise for the attack, or make the victim reciprocate in making sexual comments (Canter, 1994; Canter et al., 2003). What is evident from the model is that all these factors interact in the process of behaviour formation and the likelihood that a behaviour will even occur (Mischel & Shoda, 1995; Ward et al., 2006).

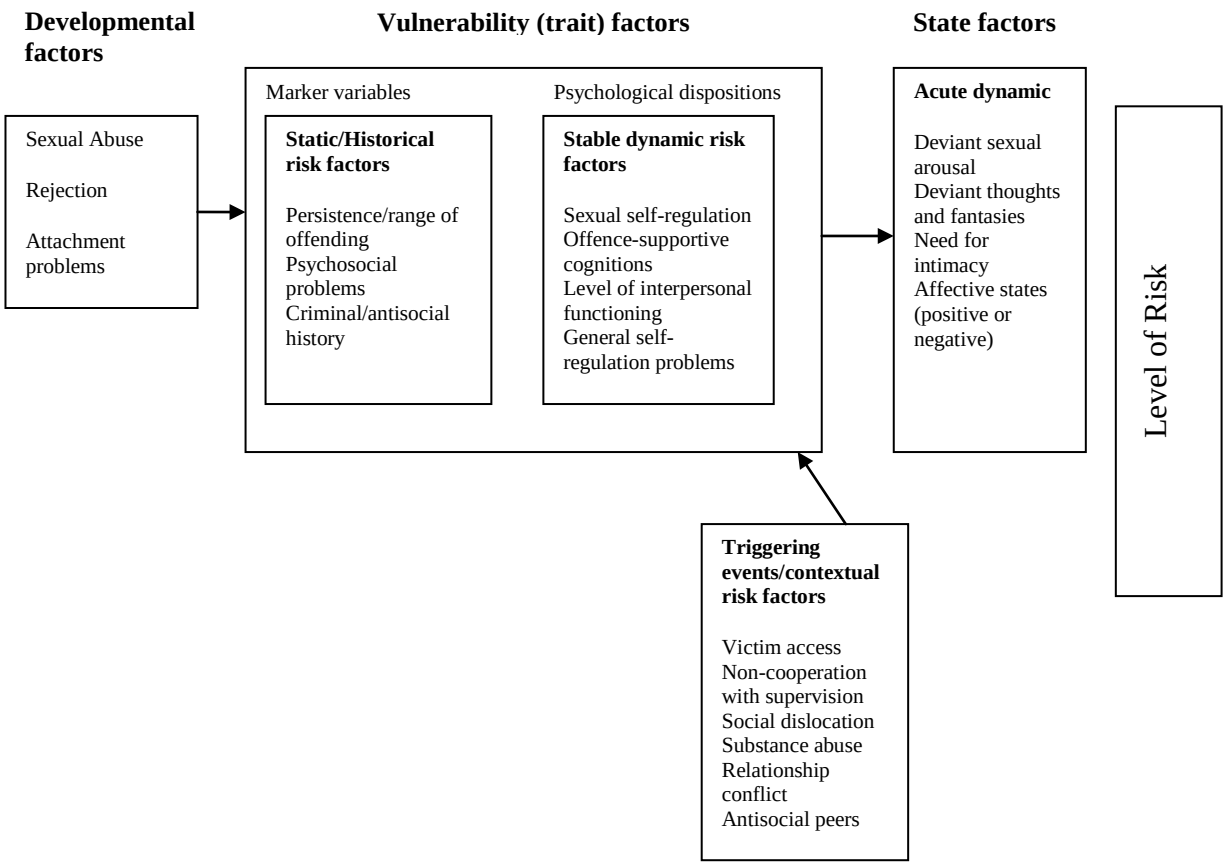


Figure 2.2 An Aetiological Model of Risk (adapted from Beech & Ward, 2004) [8]

Motivation is not always straightforward or easy to infer from crime scene information. Yet, as suggested in models such as Beech and Ward (2004), and by psychology in general, it is too important an aspect of any behaviour to be ignored or left out. It is an imperative piece of the puzzle when answering the question 'Why' – why an offender chose to commit their crime, why they chose their victim, why they committed the crime in the manner they did, etc. Motives are fundamentally influential to our behaviour as they compel our thoughts and propel us into action. Intertwined with motivation is the offender's perception of his world. How the offender views his personal world, his relationships with his family, friends, work, and strangers will all influence and direct how he chooses to engage with and react to them. The contextual variables surrounding an offence are often undervalued or overlooked. The use of alcohol or drugs prior to the offence, the location of initial contact with victim and of the actual offence, and the level of victim resistance are just some of the contextual factors that may prove to be invaluable in the process of Offender

[8]See Beech, A.R & Ward, T. (2004). The integration of aetiology and risk in sexual offenders: a theoretical framework. *Aggression and Violent Behavior, 10,* 331-63 for more detailed explanation of the model.

Profiling and in providing investigative advice, yet little research focuses on these factors. The inclusion of context, the perceptions and motivations of the offender provide a more comprehensive approach to the basic idea behind offender profiling, which if viable should be able to more effectively generate offender characteristics from crime scene information, thereby allowing for more specific suspect elicitation and prioritisation and greater pragmatic use through their utilisation in the understanding of various circumstances in which sexual offending occurs, and the use of this knowledge in police interviewing and the reconstruction of the offence (Beauregard & Fields, 2008).

Therefore, the current thesis will look to explore the mediating relationships between contextual variables, perceptions of the offender, and the motivations behind their offending. The general exploratory hypothesis being that each of these constructs will significantly influence the resulting offence behaviour and themselves link back to specific offender characteristics.

Chapter 3: Methodology

The purpose of this chapter is to outline the general methodology and procedures used throughout the studies included within the thesis. A description of the sample can be found below, as well as, in Chapter 4, and short descriptions of the procedures and materials can be found in each of the individual chapters. Below is a more in-depth and complete description of the analyses used in the studies in Chapter 4, Chapter 5, Chapter 6, and Chapter 7.

3.1 Sample

One hundred and two sexual aggressors were drawn from an original sample of 170 convicted sexual offenders (112 rapists; 58 sexual murderers), who were approached before taking part in the 55 different Core Sex Offender Treatment Program (Core SOTP) run by the UK Prison Service between 1998 and 2002, across seven of Her Majesty's Prison establishments in England and Wales. Eighty-six rapists and 45 sexual murderers voluntarily agreed to and completed the original interviews. Based on a 'cognitive-behavioural' approach, the Core SOTP is an intervention programme. The aim of SOTP is to increase the offenders' motivation to avoid re-offending by targeting and challenging their offence-supportive cognitions serve to maintain their sexual offending behaviour by helping them to develop new attitudes and the self-management skills necessary to accomplish this. The average length of the programme is 180 hours, completed in approximately two-hour content sessions, meeting for two to five sessions per week (Beech et al., 2005).

Only those sexual aggressors who had committed and were convicted of at least one sexual offence against an adult (16 years of age and above)[9] female victim were included in the thesis sample. Sixty-four of the offenders had committed rape as their index offence, while the remaining 38 were sexual murderers.The term for rapist will be in line with the Sexual Offence Act 2003, which states that:

> A person (A) commits a [rape] if a) he intentionally penetrates the vagina, anus or mouth of another person (B) with his penis, b) B does not consent to the penetration, and c) A does not reasonably believe that B consents. (Chapter 42, Part 1, Section 1)

[9] Based on the Sexual Offence Act 2003 age of consent to sexual activity being 16 years of age and older.

The term sexual murderer will be the same as those used by Beech, Oliver, Fisher, and Beckett, (2005), and "applied to individuals who have killed someone where there is either clear forensic evidence of a sexual element to the killing, or a sexual component is admitted or suspected" (p. 5).

This sample represented approximately 1.9 % of the total male population under immediate custodial sentence for sexual offences at that time and about 0.2% of the total male prison population under immediate custodial sentence (Home Office, 2004). The samples' ages ranged from 14-57 years old at the time of the offence (M = 26.70, SD=8.60). The mean sentence length for the total sample was 10.70 years (SD=4.35), ranging from 5 to 25 years.

Table 3.1

List of the Seven of Her Majesty's Prison Establishments across England and Wales.

Establishment	**Rapist**	**Sexual Murderers**	**Total**
Brixton	2	20	22
Albany	12	3	16
Maidstone	9	0	9
Frankland	5	1	6
Full Sutton	8	3	11
Wandsworth	15	0	15
Wakefield	12	11	23
Total	64	38	102

3.2 Chapter 4 Methodology

In Chapter 4, to compare and contrast rapists and sexual murderers, Pearson's Chi-square tests were calculated for the nominal data and Independent Samples *t*-Tests, Mann Whitney U and MANOVA tests for the interval data. Agglomerative hierarchical cluster analysis was used to investigate whether the offenders in the sample would form similar clusters to those reported in previous studies.

3.2.1 Pearson's Chi-square

To test for significant differences between rapists and sexual murderers on offender and general lifestyle characteristics, relationship and sexual lifestyle characteristics, childhood victimization, pre-crime factors, victim characteristics, modus operandi characteristics, and forensic histories, Pearson's chi-square tests were performed. Pearson's chi-square tests the independence of two categorical variables and whether these variables, represented in a contingency table, differ in expected frequency from each other that would be expected if they had happened by chance (Field, 2009). There are two assumptions of chi-square tests: 1) each person falls into only one cell of the contingency table; and 2) the expected frequencies for each cell should be greater than five. The second assumption of chi-square (that expected cell frequencies were greater than five) was violated in some instances in Chapter 4 indicating a deviant chi-square sample distribution; therefore, Fisher's Exact significance was used where the cell count was violated. Fisher's Exact computes the exact probability of the chi-square statistic when sample size is small (Field, 2009).

Phi was used as the measure of the strength of the association between the categorical variables, where 2x2 contingency tables were generated. Phi restricts the range of the test statistic between 0 and 1 and is based on a moderated chi-square statistic, taking the sample size and degrees of freedom into account (Field, 2009).

As many comparisons were made in Chapter 4 between rapists and sexual murderers a Bonferroni correction[10] ($\alpha' = \alpha/k$) was applied in order to correct for the potential of an inflated Type I error, which can happen when performing multiple tests of comparison on a single dataset (Field, 2009). Therefore, the resulting level of alpha for significance after correction in Chapter 4 was < 0.001. The drawback to this correction is the loss of statistical power and the inflation of Type II error, meaning that significant results may be missed (Field, 2009).

3.2.2 Independent Sample *t*-Tests

Independent sample t-tests compare two means from independent samples and tests whether they differ significantly from one another (Field, 2009). Independent t-tests were calculated for the interval data to test whether the rapists and sexual murderers differed significantly with regards to their age at their first offence as well as their age at the index offence.

[10] Although, when a large number of tests are performed this correction can be too strict (Field, 2009).

3.2.3 Mann Whitney U

Mann Whitney U is a non-parametric test that looks at the differences between two independent samples. Mann Whitney U was calculated as the assumption of a normal distribution was violated for victim age and "offender age when sexual abuse started" and therefore, independent t-tests could not be performed. Nonparametric tests are more robust when the assumptions of parametric tests are violated (Field, 2009). Mann Whitney U tests were used to explore the difference between the victim age of rapists and sexual murderers as well as to explore the differences between the age at which rapists and sexual murderers started experiencing sexual abuse.

3.2.4 MANOVA

Multivariate Analysis of Variance (MANOVA) is an extension of Analysis of Variance (ANOVA; which is used to compare two or more means for any reliable differences between them), where main effects and interactions are assessed on a combination of dependent variables. It tests whether the differences between the mean differences among groups on the dependent variables is likely to occur by chance. It is designed to look at several dependent variables simultaneously while controlling for the inflation of familywise error rates (Type 1 error) (Field, 2009). MANOVA also allows for the exploration of the relationship between the different outcome variables that would not be available by doing multiple ANOVAs on the individual dependent variables. It therefore has more power than ANOVAs to detect effects as it takes into account the correlations between dependent variables. MANOVA was used to examine the relationship of crime type (rape versus sexual murder) and personality score on the MCMI-III to determine if these two groups differed with regards to their personality profiles. Eta-squared measures the amount of total variance which is the result of an effect and which is calculated as the ratio of the effect variance to the total variance ($\eta^2 = SS_{effect}/SS_{total)}$ was used as the measure of effect size and strength of association. In general, 0.01 is considered a small effect size, 0.06 medium, and 0.14 a large effect size (Cohen, 1992).

3.2.5 Hierarchical Cluster Analysis

Cluster analysis is a method of grouping a set of cases or objects together based on their similarity to other members of the cluster (Field, 2009). The degree of similarity is measured by either similarity coefficients or dissimilarity coefficients. The correlation coefficient, *r*,

measures the similarity between two variables and in theory could be applied to measure the similarity between two people to see if their patterns of responses are the same. While the correlation coefficient is standardized, and is therefore not affected by dispersion differences across variables, it ignores information about the elevation of scores – it does not tell us the distance between two people's profiles (Field, 2009).

The alternative is the Euclidean distance, *d*, which is the geometric distance between two objects or cases. The differences between a set of scores are calculated, which can be both positive and negative, these differences are squared so they are all positive in denomination, and then added together. Once all the squared differences for all the variables we are interested in have been added together the square root is taken (to revert back to original units of measurement), with smaller Euclidean distances being indicative of more similar cases. The advantage of using Euclidean distances is that is allows for missing data, however they are also greatly affected by variables with large size or dispersion differences, so scores need to be standardized (Field, 2009).

Using the similarity coefficients the cases are grouped together. All methods of cluster analysis begin with all cases being treated as single clusters, and then they are merged based on a criterion specific to the chosen clustering method. Agglomerative Hierarchical[11] clustering method was chosen as it starts with each case as single clusters, joins together similar observations, and then repeatedly merges the two closest clusters until a single, all encompassing cluster is left (Milligan & Cooper, 1987). This is represented using a dendogram (see Appendix A), which is a visual representation of the distance at which clusters are combined. When the distances between the sequential vertical lines became large, indicating increased dissimilarity, this was used as a determination of meaningful clusters.

Ward's method was used[12] in part to maximize the differences between clusters, as it assumes that a cluster is represented by its centroid, and is distinct from other methods as it uses an analysis of variance approach to evaluate the distances between the clusters and attempts to minimize the sum of the squared distances of points from their cluster centroids (Tan, Steinback, & Kumar, 2005). The means for all the variables are calculated and the

[11] As opposed to divisive hierarchical clustering, which starts with all objects in a single group and splits them up into smaller groups until there each their own individual group, or non-hierarchical clustering, such as *k*-means, which start with a single object and cluster other objects that are similar to the first one in.

[12] As opposed to single linkage, nearest neighbour, (where dissimilarity between two clusters is measured by the minimum dissimilarity between all combinations of two objects, one from each cluster); complete linkage, furthest neighbour, (where the dissimilarity between two clusters is measured by the maximum dissimilarity between all combinations of two objects); or average linkage, group average or mean, (where the dissimilarity between two clusters is measured by the average of all dissimilarities between all combinations of two objects) (Quinn & Keough, 2001) as they are affected by the structure of the data (level of dissimilarity) (Ludwig & Reynolds, 1988).

squared Euclidean distance for each of the cases to the cluster means is calculated and summed together. When the smallest increase in the overall sum of squared distances is reached the merging of clusters stops. Ward's method has been found to be robust and consistently better for recovering clusters from bivariate data as well as multivariate data (see Milligan & Cooper, 1987; for a review of validation studies), and thus deemed most appropriate for the mixed variable type present in the current sample.

The cluster analysis was used to determine the group membership of the sample with regards to the thematic clusterings found in other studies, such as Sadistic, Angry, Opportunistic, and/or Compensatory. Each of these has their own descriptive variables that were used to cluster the cases and describe cluster membership. While agglomerative cluster analysis may be affected by the way the variables are ordered, and by the removal of cases (as this can affect the course in which the analysis progresses) (Field, 2009), as well as the fact that once a cluster is formed it cannot be broken apart later, it was chosen over Multidimensional scaling (MDS), specifically Smallest Space Analysis (SSA), another method often used to explore and structure the relationship between variables and determine groups. The associations between a group of variables is represented as distances in multidimensional space, with the corresponding distances representing the correlational relationship between every variable with every other variable. The closeness of fit is between the distances is carried out by an iterative algorithm and the degree of fit between the original association and the distances in the space is measured by the coefficient of alienation, often Jaccard's coefficient (an asymmetrical measure of behavioural co-occurrences) for dichotomous data or Pearson's coefficient for categorical data. The better the fit of the plot to the data is indicated by the smaller the coefficient of alienation is (Guttmann, 1968). Problems of replication has plagued the use of MDS in statistical research and highly correlated variables distort the plots, pulling highly correlated variables into the central area and pushing less correlated variables to the outer region of the plot (Sturidsson, Langstrom, Grann, Sjostedt, Asgard, & Aghede, 2006). The issue with this is the fact that the variables within the centre of the plot are also the highest frequency ones, meaning they tend to co-occur with all other variables, while the ones on the outside or periphery of the plot are the lower frequency variables, and form the extreme points of the underlying facet. Combined this therefore makes reliable interpretation of the facet impossible. Caution also needs to be taken in the number of dimensions used to obtain the best fit. While two dimensions are more often used as this allows for better 'readability' of the data, this squeezing of data may result in a poor and highly distorted representation of the data (Jaworska & Chupetlovska-

Anastasova, 2009). More than two dimensions and the ability to comprehend become increasingly difficult, and the structure may be more a product of noise than the essential structure of the data (Steyvers, 2002).

Discriminant function analysis (DFA), used to determine whether as set of continuous or binary variables is effective in predicting category membership (Field, 2009), was not used even though the potential number of groups could have been determined a priori based on previous research, as Chapter 4 was interested in determining the number of groupings from the data, and whether they coincided with the previously found groupings (i.e., angry, sadistic, opportunistic).

3.3 Chapter 5, 6, and 7 Methodology

In Chapters 5, 6, and 7 the relationship between offender characteristics, offence characteristics, and potential mediators (context, motivations, and implicit theories) are explored using mediation analysis.

3.3.1Coding of Variables

3.3.1.1 Offender Characteristics

The offender characteristics chosen are those that would typically be found within a profile. These included: 1) the perpetrator's age at time of offence; 2) relationship status at time of offence; 3) whether they have any previous convictions (inclusive of convictions for sexual, violent, or 'other' offences); 4) whether they lived alone or not at the time of the offence; and 5) whether they were employed or not at the time of the offence. Table 3.2 shows the breakdown of the offender variables and the how they were coded. Perpetrator age was recorded for on the Functional Analysis questionnaire for 70 of the 102 sample of sexual aggressors. Relationship status referred to whether the offender was in a committed sexual relationship at the time of their offence. Whether the offender had any previous convictions was coded if they had indicated as having any previous sexual, violent, or theft related, or any other convictions at the time of committing their offence. The offender was coded as either living alone or as 'other', which included living with friends, their parent(s), wife, family member, or girlfriend, being in the armed forces, living in a hostel, or if they indicated having no fixed abode.

Table 3.2

Offender Characteristics and their Coding

Offender Characteristics (X)	**Coding**
Perpetrator Age	Interval; 14 to 57 years
Relationship Status	0=not in a sexual relationship 1=yes in a sexual relationship
Any Previous Convictions	0=no 1=yes
Lives Alone	0='other' 1=alone
Employed	0='other' 1=employed/student

3.3.1.2 Offence Characteristics

There were six offence characteristics that were focused on for the current thesis; Table 3.3 lists the offence characteristics and their subsequent coding. These were those that would be identifiable from the crime scene assessment and victim. The level of aggression was based on the original classification by Feshback (1964), who proposed that aggression could be 'hostile' (expressive) or 'instrumental'. Instrumental violence is the utilisation of violence in order to achieve a goal, its use is not for the harming of the victim, but as a means to commit the offence; therefore, aggression occurs if the goal or objective is obstructed (e.g., victim resistance). Conversely, expressive aggression goes beyond what is necessary in order to commit the offence, and is utilised in its own right as a means of inflicting harm. The level of injury inflicted upon the victim ranged from minor (slight damage with/without weapon), medium (treatment required but no overnight stay) to major (hospitalisation required)[13]. Weapon use was coded as 'used' or 'not used'; not used included a weapon being present but not physically used against the victim, and a weapon being mentioned but again not being physically used during the offence. The coding of sexual penetration variables included those variables, which happen less frequently and could potentially be more pragmatically useful in differentiating between crime series and offenders (Goodwill & Alison, 2007). Sexual aspects of the offence that involved fondling or touching of the victim's body (46%), or the touching or penetration of the victims' vagina with either a finger (35%) or penis (64%) was excluded

[13] Similar ratings to those used by Quinsey and Chaplin (1982).

as these occurred in high frequency and are not pragmatically useful in differentiating between offenders or offences.

Table 3.3

Offence Characteristics and their Coding

Offence Characteristics (X)	**Coding**
Level of Aggression	0=none/unknown 1=to control victim/instrumental 2=beyond controlling the victim/expressive 99=unknown
Level of Injury	0=none/no injuries 1=minor injuries 2=medium level of injuries 3=major injuries 99=unknown
Offence Outcome	1=murder 2=rape
Victim Age	Interval 16 to 86 years
Weapon Used	0=not used 1=used 99=unknown
Sexual Penetration	0=none 1=anal penetration with finger 2=anal penetration with penis 3=foreign object penetration vagina or anal

3.3.1.3 Potential Mediators

There were three different sets of potential mediators explored in Chapter 5, 6, and 7 (see Table 3.4). The contextual mediators explored in Chapter 5 included the use of drugs during/or directly before the offence, the use of alcohol during/directly before the offence, the location of the initial contact between offender and victim, the location of the actual offence, and the level of victim resistance.

For Chapter 6 the presence of the primary Implicit Theories was coded for. While, the presence of secondary ITs were evident for the current analysis the focus was on the most prominent IT, which included 1) Women are Unknowable/Dangerous; 2) Women as Sex Objects; 3) Male Sex Drive is Uncontrollable; 4) Dangerous World; and 5) Entitlement.

Chapter 7 looks at the potential motivations behind the sexual offence based on those found in previous literature (e.g., Proulx & Beauregard, 2009) – Angry, Sexually Opportunistic, Sexually Compensatory, and Sadistic.

Table 3.4

Potential Mediators for Chapters 5, 6, and 7, and their Coding

Potential Mediators (M): Contextual Variables	**Coding**
Use of Drugs During the Offence[14]	0=none 1=yes
Use of Alcohol During the Offence	0=none 1=yes
Location of Initial Contact between Victim and Offender	0=indoor 1=outdoor 999=unknown
Location of the Offence	0=indoor 1=outdoor 999=unknown
Victim Resistance	0=nothing/unknown 1=pleading/trying to talk offender out of offence 2=shouting help 3=verbally hostile towards offender 4=physically hostile towards offender
Implicit Theories	**Coding**
Women Unknowable/Dangerous	0=not indicated 1=indicated
Women as Sex Object	0=not indicated 1=indicated
Male Sex Drive is Uncontrollable	0=not indicated 1=indicated
Dangerous World	0=not indicated 1=indicated
Entitlement	0=not indicated 1=indicated
Motivations	**Coding**
Angry	0=not indicated 1=indicated
Sexual: Opportunistic	0=not indicated 1=indicated
Sexual: Compensatory	0=not indicated 1=indicated
Sadistic	0=not indicated 1=indicated

3.3.2 Mediation Analysis

A regression approach mediation analysis was used to analyse the data in the following chapters to test the associative link between offence characteristics and offender

[14] There was no information available on the actual amount of drugs or alcohol taken; therefore, no indication of the actual level of intoxication.

characteristics taking into consideration contextual variances (Chapter 5), motivational aspects (Chapter 7), as well as, how the offender views the world (Chapter 6).

Mediating variables and mediation form the basis for many psychological theories (e.g., social and cognitive psychology), and have applications in prevention and treatment research (MacKinnon, Fairchild, & Fritz, 2007). It stems from the work done by Lazarsfeld (1955) and Hyman (1955) on the elaboration of the X → Y relationship in order to better understand this relation and to test whether this relationship is genuine or spurious. Examples of its use in psychological research can be found throughout the different areas of psychology, such as evolutionary psychology, health psychology, and educational psychological (MacKinnon et al., 2007). For example, mediation analysis could be used to look at whether attachment style (anxious versus secure) affects the perceived support from close family members, which may in turn affect the presentation of mental health symptoms?

Mediation analysis looks at the questions: Does the IV directly affect a specific DV or does the IV affect the DV through an intermediary, or mediating variable (Tabachnick & Fidell, 2001). Mediation looks at how "an independent variable (*X*) affects a dependent variable (*Y*) through one or more potential intervening variables, or mediators (*M*)" (Preacher & Hayes, 2008, p.879). Mediation involving only one mediating variable is called simple mediation (see Figure 3.1; which is the model of mediation used in the corresponding chapters). This figure visually represents how an independent variable's (*X*) causal effect can be disseminated into its indirect effect on the dependent variable (*Y*) through the intervening variable, or mediator, (*M*) and *X*'s direct effect on *Y* (path *c'*) (Preacher & Hayes, 2008). Path *a* represents the effect or influence of the independent variable (*X*) on the proposed mediator (*M*; predicting *M* from *X*). Path *b* is the effect or influence of the proposed mediator on the dependent variable (*Y*) controlling for the effect of X (predicting *Y* from *M*). Finally, path *c'* is the direct effect or influence of the independent variable (*X*) on the dependent variable (*Y*) that is *independent* of the effect of *M* (predicting *Y* from *X*) (Hayes, 2009). The total effect of all variables influences on each other in a mediated model can be expressed as the sum of the direct (path *c'*) and indirect effects (product of *ab*), mathematically expressed as the equation: $c = c' + ab$. Similarly, *c'* is the reverse, that is: $c' = c - ab$ (Preacher & Hayes, 2008). Figure 3.2 shows the total effect of *X* on *Y* in an unmediated model.

In the current analyses if Path *a,* and *b* are significant, but not path *c'*, full mediation can be reported to have occurred, whereas, if path *c'* is also significant than it is considered a partial mediation, as there remains a direct effect of *X* on *Y* that is *not* the result of the intervening/mediating variable.

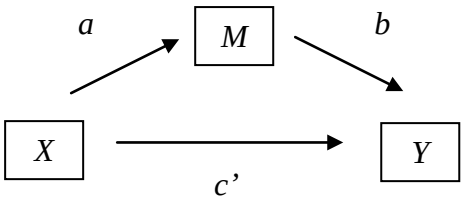


Figure 3.1. Simple Mediation Model. c' is the direct effect of X; product of a and b quantifies the indirect effect of X on Y through M.

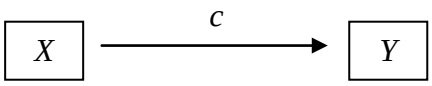


Figure 3.2. Total Effect of X on Y.

Other methods of mediation analysis (i.e., causal steps approach; Baron & Kenny, 1986) require Path *c* (the total effect) to also be significant in order to deem *M* a mediator, yet if *X*'s effect on *Y* is partly a resultant of an indirect effect through *M* then this criterion is unlikely to detect this effect. Furthermore, mediation analysis is an approach to test the intervening effects of variables, if one accepts the null hypothesis based on a non-significant total effect then the analysis is failing to test what it was meant to investigate – the intervening effect between variables. Even if *X* and *Y* are not related to one another, it is still possible for *M* to be causally related to *X* and *Y* (Hayes, 2009). A further criticism of the causal steps approach is with regards to its low power – if *X*'s effect on *Y* is partly through the intervening or mediating variable *M*, this approach is unlikely to detect any effect (Hayes, 2009). While this approach is easy to learn, understand, and use the limitations can result in the researcher wrongly accepting the null hypothesis, when in fact there is an indirect effect present. The fact that an indirect effect of *X* can be exert on *Y* through *M* without a significant association between *X* and *Y*, is possible because the total effect is the measure of the sum of *both* the direct and indirect effects, which may not all be part of the formal model (Hayes, 2009).

The Sobel Test, the test statistic for testing the null hypothesis that the indirect effect is zero, is often used as a supplement to the causal steps approach (Hayes, 2009). It is the product of coefficients approach, and requires an estimate of the standard error of *ab*, and the ratio of *ab* to its standard error (Hayes, 2009; Sobel, 1982, 1986). However, the use of this test to confirm the validity of the results of the causal steps approach does not provide any

further information than running the Sobel test on its own. This test again has its limitations – it requires that the sampling distribution of the indirect effect is normal (Hayes, 2009), which in the case of the sample distributions of *ab* is not the case as these tend to be asymmetrical, skewed, and liable to kurtosis (Bollen & Stine, 1990; Stone & Sobel, 1990).

3.3.3 Bootstrapping

Bootstrapping, a nonparametric re-sampling procedure which estimates the properties of the sampling distribution from the sample set (Field, 2009), was performed as a part of the mediation analysis to determine the indirect effects, *ab* paths. In this method, the sample is treated as a population from which smaller samples are repeatedly taken (replacing the data drawn first before re-sampling; known as Monte Carlo re-sampling). The statistic of interest (i.e., *b* coefficient) is calculated for each of the samples drawn, from which the sampling distribution is estimated. From the standard deviation of the re-sampled distribution a standard error is estimated, from which confidence intervals and tests of significance can be calculated (Field, 2009). There are several options for computing confidence intervals: the normal approximation method[15], the percentile method[16], the bias-corrected (BC) method, the bias-corrects and accelerated (BCa) method[17], and the approximate bootstrap confidence (ABC) method[18] (Efron & Tibshirani, 1986).

With regards to mediation, bootstrapping represents the sampling distribution of the indirect effects as it treats the obtained sample size *n* as a representation of the population, with the researcher determining the total number of times, *k*, that it is re-sampled (Hayes, 2009; Preacher & Hayes, 2008). The argument being that it is better to make inferences based on the sample at hand than to make potentially non-viable ones about the population as a whole (Mooney & Duval, 1993).

By repeatedly re-sampling *k* number of times, often in the thousands, empirical approximations of the sampling distribution of the indirect effect (*ab*) can be developed. This is then used to construct confidence intervals for the indirect effect by sorting the *k* values of *ab* from smallest to largest. In order to reject the null, that the indirect effect is zero, zero

[15] Computes the approximate standard error using the sampling distribution from all of the bootstrap re-samples and uses the z-distribution to compute the confidence intervals (Haukoos & Lewis, 2005).

[16] Uses the frequency histogram of the *m* statistics (number of bootstrap samples) which are computed from the bootstrap samples and sets the limits of the 95% confidence intervals at the 2.5 and 97.5 percentiles (Haukoos & Lewis, 2005).

[17] Is an adjustment of the percentile method that adjusts for the skewness and non-constant variances in the bootstrap sampling distribution (Haukoos & Lewis, 2005).

[18] An approximation of the BCa method, which requires a smaller number of re-sampled data, sets (Haukoos & Lewis, 2005).

must not be contained between the lower and upper bound of the intervals (Hayes, 2009; Preacher & Hayes, 2008). The advantages of bootstrapping are that it maintains reasonable control over Type I errors and has a high level of power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004). In addition, bootstrapping makes no assumptions about the shape of the sampling distribution (unlike the Sobel test) as the inferences made from bootstrapping are based on an estimate of the indirect effect itself (Hayes, 2009).

A disadvantage of bootstrapping is that it can be computationally intensive, although this is often offset by the speed of current computers and computer programmes. Another limitation is that the re-sampling is based on the sample in hand, meaning that if the sample at hand is not representative of the population; there is the possibility that the re-sampled sample still may be unrepresentative of the population. This would limit the ability to generalise outside of the current sample. In other words, the original sample is assumed to reflect the variety and range of the population, and if this is not the case, then the random sampling performed by bootstrapping results in more sampling error and invalid statistical estimations (Haukoos & Lewis, 2005).

3.3.4 Preacher and Hayes Estimate of the Indirect Effects

A macro developed by Preacher and Hayes (2008)[19] called 'Indirect' was installed and run as a custom dialog in the regression drop down menu in PASW Statistics 18. The Indirect script is designed to estimate the total, direct, and single-step indirect effects of causal or independent variable *X* on an outcome or dependent variable *Y* through a proposed mediator variable *M* (or a list of mediator variables). It calculates the Sobel test for both the total and specific indirect effects, as well as, calculating the percentile-based, bias-corrected, and bias-corrected and accelerated bootstrap confidence intervals for the indirect effects. The macro automatically detects whether the outcome variable is continuous or binary and estimates accordingly. If binary outcome is detected the direct and total effects, and the path(s) from the proposed mediator(s) are estimated using logistic regression. Otherwise, the estimates of the paths are calculated using Ordinary Least Squares regression.

[19] Macro can be found at: http://www.afhayes.com/spss-sas-and-mplus-macros-and-code.html

3.3.5 Assumptions of the Mediation Analysis

3.3.5.1Multicollinearity

Multicollinearity occurs when the independent variables are too highly correlated (Tabachnick & Fidell, 2001). It only poses a problem in multiple regression since this analysis requires more than one predictor, which is also a problem for logistic regression (Field, 2009). One indication of multicollinearity, besides inspecting the correlation matrix for correlations above 0.80, is inflated error terms. Large standard errors indicate that the *b* coefficient for the sample is more variable, and is less likely to represent the population (Field, 2009). Multicollinearity can also affect the width of the resulting confidence intervals, resulting in very wide intervals. Wide confidence intervals are highly affected by the exclusion or addition of a data point, which can change the coefficients drastically (Myers, 1990). The issues with highly correlated independent variables is the fact that they explaining the same part of the variation in the dependent variable. This makes it hard to determine which variable is responsible for the variance, and lessens their explanatory power, as well, the significance of their coefficients are "divided up" between them (Myers, 1990). Issues of collinearity can also mask the importance of the individual predictors – if the variables are highly correlated and each accounts for similar variance with regards to the outcome, it is unclear which variable is more important within the model as a whole.

The variance of inflation (VIF) and the tolerance (T) statistic are two measures of collinearity. The VIF indicates whether one predictor has a strong linear relationship with the other predictor(s), and a value of 10 is thought to be a good value to use as a cut-off. Although, a value of 1 or more can often indicate that multicollinearity may be influencing the regression model (Bowerman & O'Connell, 1990). Related to the VIF is the measure of tolerance (T), which is the 1/VIF, where values below 0.1 indicate severe problems of collinearity, although values below 0.2 should be taken note of (Fields, 2009). For each of the chapters, multicollinearity was assessed using the VIF and T values (these are reported in the individual chapters).

3.3.5.2Linear Regression and Logistic Regression Assumptions

The main assumptions of linear regression are (Field, 2009):

1) Normal distribution of errors; this assumes that the differences between the residuals of the model and the actual observed data are zero or close to zero.
2) Linear relationship between the dependent and independent variables – "the mean values of the outcome variable for each increment of the predictor(s) lie along a straight line" (Field, 2009, p. 221); if violated the analysis will under-estimate the true relationship and limit the generalisability of the findings.
3) Independence, which is the assumption "that all of the values of the outcome variables are independent...[and] from a separate entity (Field, 2009, p. 221);
4) Homoscedasticity is the premise "that at the residuals at each level of the predictor(s) should have the same variance" (Field, 2009, p. 220); when violated, the occurrence of marked heteroscedasticity, it can lead to serious distortion of findings and increase the possibility of Type 1 error (Tabachnick & Fidell, 2001).
5) Multicollinearity

If any of these assumptions are violated then the predictions yielded by the regression model could be seriously biased and misleading meaning that generalisations cannot be made beyond the current sample.

Logistic regression shares some of the same assumptions of linear regression, namely linearity, independence, and multicollinearity.

3.3.6 Measurement of Variance

As part of the output by the macro different measurements of variance, and how well the model fits the data, are generated depending on whether linear regression or logistic regression is run and used to describe the amount of variance explained by the models for the different mediation analyses run.

3.3.6.1 R-square Statistic

The R-square statistic is a measure of how well a regression line in linear regression approximates the real data points, and indicates how successful the fit of the model is in explaining the variation of the data. It is the proportion of variance shared by the outcome

and predictor variables. R-square can take any value between 0 and 1, with values closer to 1 indicating that a greater proportion of variance is accounted for by the model (Field, 2009).

3.3.6.2 Wald Statistic

The Wald statistic, based on a chi-squared distribution[20], indicates whether the *b* coefficient in logistic regression models[21] for the predictor is significantly different from zero (Fields, 2009). It is the *b* coefficient divided by the standard error, and specifies if the independent variable is a significant predictor of the outcome. However, when the coefficient is large this can result in an inflated standard error leading to the Wald statistic being underestimated. The result is a possible increase in Type II error (accepting the null) (Fields, 2009).

3.3.6.3 Cox and Snell R Square and Nagelkerke R Square

The Cox and Snell R^2 statistic is the logistic regression model version of the coefficient of determination, which "is based on the log-likelihood of a model (LL(*new*)) and the log-likelihood of the original model (LL(*baseline*)), with a sample size *n*" (Field, 2009, p. 784) Although, it does not reach its maximum value of 1 (Field, 2009). Nagelkerke's R^2 is another form of the coefficient of determination for logistic regression and a variation of the Cox Snell's R^2, which overcomes the limitation of the Cox Snell R^2 by being able to reach its maximum value of 1 (Field, 2009). Both of these are analogous to Pearson's correlation coefficient, R^2, in linear regression, and describe the proportion of variance in one variable that is explained by a second variable (Field, 2009).

[20] A probability distribution of the sum of squares of the several normally distributed variables (Field, 2009).

[21] It is the equivalent to the *t*-statistic in linear regression (Field, 2009).

Chapter 4

Rapists and Sexual Murderers: Combined Pathways to Offending

The aim of this is to determine if there are sufficient differences or similarities to warrant combing the current sample of sexual murderers and rapists into one sample of sexual aggressors of adult women. The idea of sexual offending being an escalating continuum is discussed. The pathways to offending of sexual aggressors of women are explored concerning the offender's general and sexual life-style, their own victimization, previous criminal history, pre-crime factors, as well as the victimology, and modus operandi. These factors are discussed with regards to the Angry, Sadistic, and Compensatory pathways found in previous research.

The following chapter was accepted for publication in the book: *Pathways to Sexual Offending*, due for publication summer 2012. The authorship on the chapter indicates collaborative working. To clarify, I am the senior author and my supervisors Anthony Beech and Jessica Woodhams are also named as authors.

Chapter 4: Rapists and Sexual Murderers: Combined Pathways to Offending

4. Introduction

The aim of this chapter is to compare rapists and sexual murderers on a set of variables encompassing developmental, psychological, criminological, and offence-related factors. It will be determined whether they should be considered as two separate groups of offenders or as representing individuals who display behaviour that forms a continuum of sexual violence. Secondly, the chapter will investigate the specific pathways to offending in a UK sample of sexual aggressors against adult females.

4.1 Comparing Rapists and Sexual Murderers

In general terms, the literature on sexual offenders tends to put offenders into types and examine them in isolation; this literature concentrates on *paraphilias* (e.g., Abel & Osborn, 1992; Bradford, Boulet, & Pawlak, 1992; Kafka, 1997); child sexual abuse (e.g., Mian, Wehrspann, Klajner-Diamond, LeBaron, & Winder, 1986; Mrazek, Lynch, & Bentovim, 1983; Proulx, Perreault, & Ouimet, 1999; Sheldon, & Howitt, 2008); rapists (e.g., Canter, Bennell, Alison, & Reddy, 2003; Canter & Heritage, 1990; Groth, 1979; Knight, 1999; Kocsis, Cooksey, & Irwin, 2002; Langton & Marshall, 2001); non-serial sexual murderers (e.g., Brittain, 1970; Burgess, Hartman, Ressler, Douglas & McCormack, 1986; Fisher & Beech, 2007; Kraemer, Lord, & Heilbrun, 2004; Meloy, 2000; Porter, Woodworth, Earle, Drugge & Boer, 2003; Ressler, Burgess & Douglas, 1988); sadistic sexual offenders (e.g., Brittian, 1970; Dietz, Hazelwood, & Warren, 1990; MacCulloch, Snowden, Wood, & Mills, 1983; Marshall & Kennedy, 2003;); and serial sexual murderers (e.g., Douglas, Burgess, Burgess, & Ressler, 1992; Egger, 1984; Ferguson, White, Cherry, Lorenz, & Bhimani, 2003; Silva, Leong, & Ferrari, 2004; Warren, Hazelwood, & Dietz, 1996). Although, these studies provide valuable information about these different types of sex offenders in isolation they do not consider or test whether these types of sex offender are truly different from one another

With regards to sexual aggressors of adult women, few studies have directly compared rapists[22] and sexual murderers[23]. Those that have compared these two groups,

[22]"Rape: A person (A) commits an offence if a) He intentionally penetrates the vagina, anus or mouth of another person (B) with his penis, b) B does not consent to the penetration, and c) A does not reasonably believe that B consents." (Sexual Offence Act 2003)

[23] "The term *sexual murderer* is applied to individuals who have killed someone where there is either clear forensic evidence of a sexual element to the killing, or a sexual component is admitted or suspected" (Beech, Oliver, Fisher & Beckett, 2005, p. 23).

generally concentrated on their developmental, psychological, and criminological differences, and the *modus operandi* of the sexual offenders. Developmentally, it was found that sexual murderers, in contrast to rapists, were more frequently socially isolated in both childhood and adolescence, indicating a general lack of friends, feelings of being isolated or excluded from their peer group, and a lack of sexual relationships (Grubin, 1994; Milsom, Beech & Webster, 2003; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, Cusson, & Nicole, 2007). The sexual murderers more often came from families with violent fathers (Langevin, Ben-Aron, Wright, Marches, & Handy, 1988; Proulx, et al., 2007) and were the victims of both sexual and physical childhood abuse (Milsom, et al., 2003; Proulx, et al., 2007). Psychologically, the sexual murderers showed higher rates of Antisocial Personality Disorder[24] (Langevin, 2003; Langevin, et al., 1988; Proulx, et al., 2007), although this was found to be rare amongst both groups (Oliver, et al., 2007; Proulx, et al., 2007). They were also found to have a higher prevalence of paraphilias, such as sadism and transvestism, than rapists (Grubin, 1994; Langevin, 2003; Langevin, et al, 1988; Proulx, et al., 2007).

While both the rapists and sexual murderers tended to have varied histories of offending, the sexual murderers started their offending career at an earlier age than the rapists (in their early to mid teens) (Langevin, 2003; Proulx, et al., 2007; Oliver, et al., 2007), and had committed their first sexual murder by approximately 20 years of age (Langevin, 2003). The offences of the sexual murderers were more frequently preceded by feelings of anger (Grubin, 1994; Langevin, et al., 1988; Milsom, et al., 2003; Proulx, et al., 2007), and the use of alcohol (Grubin, 1994; Langevin, 2003; Proulx, et al., 2007), although the sexual murderers were not necessarily intoxicated. As well, they tended to commit their assault against female strangers (Langevin, 2003; Langevin, et al., 1988; Proulx, et al., 2007), whom they strangled (Grubin, 1994; Langevin, et al., 1988).

The sample sizes of these comparison studies are small (i.e., Langevin et al., 1988; Milsom et al., 2003), and only a narrow set of variables was investigated (Grubin, 1994; Milsom et al., 2003), thus restricting generalizability and the possibility for comparisons (Proulx, Cusson & Beauregard, 2007). However, on the whole, there remain a limited number of differences between sexual murderers and rapists, with more similarities apparent within their backgrounds, criminal histories, and personalities.

[24] The presence of personality or clinical disorders was measured using different tools in the different studies. Millon Clinical Multi-axial Inventory III (Million, 1994) was used in Langevin, et al. (1988), Oliver, et al. (2007), Proulx, et al. (2007). Antisocial Personality Questionnaire (Blackburn & Fawcett, 1996, 1999) was also used in Oliver, et al. (2007).

4.1.1 Escalation and continuum of sexual violence

These few comparative studies show that sexual murderers have only been distinguished from other sexual offenders on a small number of variables; most of which are static background characteristics. These results support the idea that sexual homicide and rape represent two ends of a single continuum of sexual violence (Salfati & Taylor, 2006). For example, there appear to be similar motivations across the two groups, with sexual murderers acting out more extreme forms of the motivations identified in rapists (Beech et al., 2005; Oliver et al., 2007), which ultimately lead to the death of their victim. Studies looking at the escalation of sexual offending have found that even at the 'lower' end of the sexual offence continuum (i.e., exhibiting and obscene phone calls) there is evidence of escalation for some sexual offenders towards more serious and physically violent sexual offences (i.e., sexual assault) (Stermac & Hall, 1989). As well, it has been found that convicted sexual offenders are seven times more likely to be convicted of a subsequent homicide than the general population, even though the likelihood of a sex offender going on to commit a subsequent homicide is still low (1 in 400) (Francis & Soothill, 2000).

In sexual murder and rape, the offender-victim interactions are primarily set apart by the level of violence involved. Rape behaviours are associated toward one end of the continuum (i.e., blindfolded, binding, clothing ripped, weapon brought to the scene), with sexual murder behaviours located toward the other end of the continuum (i.e., object insertion, anal penetration, non-controlled violence, multiple wounding). Those behaviours positioned in the middle of the continuum (i.e., steal, vaginal penetration, naked, forensic awareness) represent both forms of sexual aggression (Salfati & Taylor, 2006). However, to wholly understand sexual violence, it is not enough to continue exploring facets of behaviour based solely around individual subgroups (e.g., rape or sexual murder), but a move towards an intra-domain model that tests all the facets of behaviour relating to sexually violent behaviour is necessary (Salfati & Taylor, 2006). This suggestion is supported by Ch □n□ and Cusson (2007), who found pre-crime alcohol consumption, presence of a familial, or intimate relationship, with the victim, and the use of a blunt object as a weapon to have a strong association with the severity of the crime (e.g., use of excessive force, extent of victim injury), rather than its outcome. This does not support a diametrical separation of sexual murderers from rapists. Instead, the differences between them are an indication of the predictors of the escalation from sexual aggression to sexual murder (Nicole & Proulx, 2007)

along a continuum of sexual violence. Related to the continuum of sexual violence are the pathways to offending of these sexually aggressive offenders.

4.2 Pathways of Sexual Aggression Against Women

Early models of the offence process and pathways, such as Pithers, Marques, Gibat and Marlatt's (1983) Relapse Prevention model[25] and Polaschek, Hudson, Ward, and Siegert's (2001) Rape Model[26], have been criticised for proposing a single pathway to offending, for their descriptive nature, their focus on negative affect and the small samples and limited variables from which they were devised (Proulx & Beauregard, 2002; 2009 a, b). In response, Proulx and Beauregard (2002; 2009a, b) collected a breadth of information relating to pre-crime affect and behaviour, modus operandi, victim and offender characteristics and situational variables from interviews with Canadian incarcerated sexual offenders. These variables were subject to multiple correspondence analysis[27] and cluster analysis techniques[28], which identified several distinct pathways to sex offending. In their studies on the offending process of non-serial Canadian sexual murderers and extra-familial rapists, Proulx and Beauregard (2002, 2009a) identified a sadistic, angry, and sexually opportunistic pathway to offending, which differed on the offender's use of deviant sexual fantasy, level of planning, use of physical violence, treatment of victim, and victim selection. The offenders in the *sadistic pathway* during the hours preceding their crime often engaged in and used deviant sexual fantasies; they selected, kidnapped, restrained, humiliated and mutilated their stranger victims, using more force than was necessary to complete the assault. They spent a lot time with their victims (more than 30 minutes) and the attack often resulted in the death of the victim, following which they hid the body. Such characteristics have been reported in studies of sadistic serial murderers (Gratzer & Bradford, 1995; Warren et al., 1996).

In contrast, the murderers in the *anger pathway* did not plan their offences, preselect their victim, or use physical restraints. Although, they did not explicitly plan their offence

[25] Pithers, Marques, Gibat and Marlatt's (1983) relapse prevention (RP) model for sexual aggressors was derived from a method of enhancing maintenance of change in substance abusers originally described by Marlatt and colleagues (Chaney, O'Leary, & Marlatt, 1978; Marlatt, 1982; Marlatt & Gordon, 1980, 1985) and is based on the idea of a cognitive-behavioural chain. It proposes a variety of factors that interact with each other, and which influence whether or not a sexual offender will reoffend.

[26] Polaschek, Hudson, Ward and Siegert (2001) rape model (RM) of offence processes followed five phases, which the offenders went through in committing their offences: 1) offender background factors; 2) goal attainment; 3) the approach; 4) the preparation; and 5) the offence. In sum, Polaschek et al.'s RM is concerned with the explicit goals of the offender and his decision-making throughout the entire offence process. It focuses on the interaction between the offender and the victim, which is often overlooked in the literature.

[27] Multiple correspondence analyses (MCA) provide a visual representation of the associations between multi-level categorical variables along with descriptive statistics that indicate the number of dimensions of the associations (Clausen, 1998).

[28] Cluster analyses are mathematical methods used to determine clusters of similar objects in a set (Romesburg, 2004).

they often chose prostitutes as their victims, who they would seriously injury in the course of the offence. They did not mutilate or humiliate their victim, and they often left the body of their victim at the crime scene. They reported experiencing anger and being intoxicated just prior to their crime (while those in the sadistic pathway reported more positive affect before their crimes), and they did not present deviant sexual fantasies. Finally, the *sexually opportunistic pathway* offenders used alcohol preceding their crime and often used minimal force or violence during their sexual attack on a victim, who was typically an acquaintance. They did not humiliate, mutilate or injure their victim (Proulx & Beauregard, 2009a).

Extending the results of their previous studies, Proulx and Beauregard (2009b) investigated pathways to offending based on the pre-crime factors, modus operandi, situational variables, and adding sexual and general life-style factors, personality disorder profiles factors associated with the sadistic, angry, and opportunistic processes. The prominent features of the sadistic aggressors were general lifestyle inactivity, deviant sexual fantasies and consumption of pornography, generalized conflict with women in the year preceding their offence, and social isolation. The angry aggressors experienced anger and generalised conflict with women leading up to their offence, and with prostitutes as the most likely victims of this group of offenders. The third group of aggressors, the sexually opportunistic, had generalised conflict with society and women prior to their offence, they used drugs and alcohol, and had a large number of sexual partners and explicitly planned their offence.

Another examination of the offence pathways of sexual aggressors that takes into consideration surface level cognitive distortions and underlying implicit theories, is that of Beech, Fisher, and Ward (2005), and Beech, Ward, and Fisher (2006). Implicit theories are causal theories that generate thoughts, feelings, and motivational beliefs (Mann & Beech, 2003) that function to explain other people's actions and help make predictions about the world (Polaschek & Ward, 2002). Polaschek and Ward (2002), in their examination of the motivational beliefs literature, identified five offence-related implicit theories (ITs) that support and sustain a rapist's pro-offending attitudes:

1) *Women as sexual objects (WSO)*. Women are seen to constantly desire sex and are in a constant state of sexual reception, they are seen to exist to meet the sexual needs of men, even if it is coerced or violent.

2) *Males' sex drive is uncontrollable (SDU)*. Men's sexual energy is difficult to control, and women play a key role in the loss of this control by denying reasonable sexual access.
3) *Dangerous world (DW)*. The world is a dangerous place and it is necessary for the offender to fight back and achieve dominance and control over other people.
4) *Women are unknowable/dangerous (WUD)*. Women are deceptive in communicating their desires and needs to men, and are out to trick or con men.
5) *Entitlement (E)*. Men are superior to and more important than women, and have the right to assert their needs above/over them.

It was found that *Danger World* and *Women as sexual objects* were the two most dominant ITs present in rapists. Consequently, investigating the absence or presence of DW and WSO ITs, Beech, et al. (2006) identified three main groups in their sample of rapists; namely, Group 1: *violently motivated* (presence of DW and absence of WSO); Group 2: *sexually motivated* (presence of WSO and absence of DW); and Group 3: *sadistically motivated* (presences of DW and WSO). The violently motivated Group 1 offenders were more likely to attack an (ex) partner, were more likely to have recently split from a sexual partner, and to have committed previous sexually violent and/or non-sexually violent offences compared to Group 2. E and WUD ITs were also present in 15-20% of this group. Group 2, the sexually motivated group, were more likely to offend against younger stranger victims. E ITs was present in almost three-quarters of this group, suggesting it was another major motivating factor for their offending. The third group, the sadistically motivated, had sexual and/or violent offence histories, and were twice as likely as the other two groups to have a known history of psychiatric problems (e.g., depression, personality disorder). Their motivations for offending were to carry out their sadistic fantasies, the need for power and domination over women, and their desire to sexually humiliate women.

Beech, et al. (2005) looked at the presence or absence of these five ITs in a sample of sexual murderers. Again, three groups were identified, albeit by the absence or presence of *Dangerous World* or *Males' sex drive is uncontrollable* (the two dominating ITs), Group 1: *grievance and/or anger motivation* (presence of DW, absence of any sexually motivating ITs); Group 2: *sexual motivation* (dominance of SDU); and Group 3: *sadistic motivations* (presence of DW and SDU). The first group motivated by grievance and anger toward women, where more likely to know their victim, whom they were more likely to beat or stab to death. This group of offenders were the least likely to sexually mutilate their victim after

death and they had the highest level of criminal histories for nonsexual and/or nonviolent offences. The sexually motivated group (Group 2), targeted adult women, had pre-offence thoughts and fantasies dominated by the prospect of sexual gratification and having sex. These offenders often murdered to keep the victim as a means of keeping them quiet during the offence or to avoid detection afterwards. The third group, the sadistically motivated, held prior intentions to kill and mutilate their targeted stranger victims, and reported that their motivation to offend was to act out their violent and sadistic thoughts and fantasies. They had a reported history of violence against women that was significantly higher than both the other two groups combined. For some of the sexual murderers, Beech, et al. (2006) hypothesise that these are extreme forms of the motivations identified in their aforementioned study using rapists. They argue that it is imperative to continue to look at motivations and the risk of carrying out further offences because in some cases these offences may escalate from rape to murder.

The strength of the offence process and pathways to offending models are their basis in both qualitative and quantitative methods, and their use of a wide variety of variables concerning the offender, the offence, and the victim (Proulx & Beauregard, 2009b). Sexual aggressors vary in their primary goals (e.g., sexual gratification versus grievance), their capacity to plan their offence (e.g., explicit versus implicit), the negative or positive emotions they experience throughout their offence process (Ward & Hudson, 1998) and the implicit theories underlying their offences (Beech, et al., 2005; Beech, et al., 2006). The implications of these models have a bearing on treatment and the identification of specific interventions for sexual aggressors (Ward, Hudson & Keenan, 1998)[29].

4.3 Methods

4.3.1 Participants

One hundred and two sexual aggressors who had committed and were convicted of at least one sexual offence against an adult (16 years of age and above) female victim were included in this study. Sixty-four of the offenders had committed rape as their index offence, while the remaining 38 were sexual murderers[30]. The participants were all convicted sex offenders taking part in the Core Sex Offender Treatment Program (Core SOTP) run by the UK Prison

[29] See Beech, et al. (2006) for a discussion of the treatment implications of the identified sexual offending motivations.

[30] For the current study, the term for rapist will be in line with the Sexual Offence Act 2003 and the term sexual murderer will be the same as those used by Beech, et al. (2005).

Service between 1998 and 2002. Based on a 'cognitive-behavioural' approach, the Core SOTP is an intervention programme aimed at increasing offenders' motivation to avoid re-offending and developing the self-management skills necessary to accomplish this. It targets a number of different areas which are considered important in the aetiology and maintenance of sexual offending behaviour (i.e., deviant arousal; distorted thinking patterns; lack of empathy; denial and minimisation; patterns of offending). The average length of the programme is 180 hours, completed in approximately two-hour content sessions, meeting for two to five sessions per week (Beech, Oliver, Fisher & Beckett, 2005). The sample was selected from 55 different Core SOTP groups running at seven Her Majesty's Prison establishments in England and Wales. This sample represented 2 % of the total male population under immediate custodial sentence for sexual offences at that time and about 10% of the total male prison population under immediate custodial sentence (Home Office, 2004). The samples' ages ranged from 14-57 years old at the time of the offence (M = 26.70, SD=8.60). The mean sentence length for the total sample was 10.70 years (SD=4.35), ranging from 5 to 25 years.

4.3.2 Procedure

Individual offenders undergoing the Core SOTP were approached and those who consented to be interviewed were seen for approximately 75 minutes. During this time the *Functional Analysis Interview* (FAI), a standard pre-assessment screening interview for the Core SOTP treatment program, was completed. Their demographic and offence details were obtained from their official prison file. The FAI consists of 18 questions exploring the cognitions, emotions, and behaviours of the offenders: 1) prior to the index offence (e.g., major life events experienced prior to offence); 2) during the index offence; and 3) post index offence.

In addition to being interviewed, 64 of the 102 offenders completed the *Millon Clinical Multiaxial Inventory-III* (MCMI-III; Millon, 1994). The MCMI-III is a standardised, 175-item, self-report personality questionnaire comprised of 14 Personality Disorder scales. It provides information on specific disorders outlined in the Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM-IV-TR American Psychiatric Association, 2000) in terms of Axis I (clinical disorders) and Axis II (personality disorders). Raw scores are obtained for 11 personality disorders: schizoid, avoidant, dependent, histrionic, narcissistic, antisocial, obsessive-compulsive, passive-aggressive, schizotypal, borderline and paranoid. These scores are then transformed into base-rate (BR) scores, with reference to the prevalence of each

personality disorder in clinical populations. Finally, the BR scores are compared to cut-off scores to indicate the level of pathology of the individual. A BR score of 75 or greater suggests problematic trait features and is suggestive of the presence of disorder, while scores of 85 or more provide substantial support for the presence and prominence of a personality disorder or clinical syndrome.

4.4 Results

4.4.1 Findings of the comparisons between the rapist and sexual murderer samples

Prior to investigating the offenders' pathways to offending, it was first necessary to determine whether the rapists and sexual murderers were sufficiently similar in their characteristics that they could be grouped together, or if they differed from one another and therefore should be analysed separately. The source of information regarding the offender's characteristics was the FAI. These data were coded in terms of the presence or absence of characteristics and thus represented nominal data whereas characteristics such as offender age at first offence represented interval data. The MCMI also produced interval level data. To compare and contrast rapists and sexual murderers Pearson's Chi Square tests were calculated for the nominal data and Independent Samples *t*-Tests, Mann Whitney U and MANOVA tests for the interval data. Fisher's Exact significance was used where the cell count was violated in the Chi Square tests. A Bonferroni correction ($\alpha_{new} = [1-(1-\alpha)^{df}]/n$) was applied correcting for an inflated Type I error, which can happen when performing multiple tests of comparison on a single dataset. Therefore, the level of alpha for significance was <0.001 (See Appendix C Tables B1 and B2).

4.4.1.1Offender and general life-style characteristics

The rapists' ages ranged from 14 to 57 years and they were older (*M* = 29.36, *SD*=9.14), although not significantly, than the sexual murderers (16-48 years; *M* = 23.88, *SD*=7.08). Sexual murderers were more likely to be White (92%), while a greater proportion of the rapists were of an ethnic minority (19.6%). Level of employment and unemployment did not differ between the sexual murderers and rapists, with two-thirds of both groups being in employment or in education (61%; 60% respectively) at the time of the offence. Just over 20% of the sexual murderers and less than 20% of the rapists lived alone. The majority of the sexual murderers lived either with their parents (29%) or with a girlfriend or wife (21%),

although this did not differ significantly from the rapists with just over one-third of the rapists also living with their parents or a current girlfriend or wife.

The majority of both the sexual murderers and the rapists had experienced some kind of major life event just prior to the offence (82%; 86%, respectively) (i.e., relationship break-up; moving house). However, the sexual murderers more often reported experiencing inter-relational difficulties prior to the offence than the rapists (21%; 5%, respectively).

4.4.1.2 Relationship and sexual lifestyle characteristics

Rapists were more likely to be in a sexual relationship at the time of the offence (73%), lasting more than a year in length (52%), and with which they were currently dissatisfied (64%). The majority of both the sexual murderers and the rapists were currently in a relationship with a female partner (55%; 72%, respectively); however, sexual murderers were more likely than the rapists to have male partners (45%; 28%, respectively). On the other hand, it was common in both groups for the previous partner to have been male (63% of sexual murderers; 77% of rapists). Neither group reported regularly using the services of prostitutes. A greater number of the rapists (70%) reported having had long-term relationships as compared to the sexual murderers (47%), who tended to have had both a few short-term and a few long-term relationships (47%). The sexual murderers more often reported having difficulty in making close friends and in keeping friends.

4.4.1.3 Childhood victimization

More of the rapists reported suffering sexual abuse as a child (21%) compared to the sexual murderers (9%). Although not significant, a higher proportion of the sexual murderers (60%) reported that a parent was the perpetrator of the sexual abuse while the rapists were more likely to have been sexual abused by a stranger, friend or another family member (86%). The median age the abuse started for sexual murderers and rapists was the same, 12 years (Range: 4-15 years). The rapists suffered more contact sexual abuse (86%; i.e., oral sex, intercourse) than the sexual murderers who were more often exposed to visual sexual abuse (67%; i.e., witnessing sex, being shown pornography), although this association was not significant.

The rapists more often reported suffering physical abuse as a child than the sexual murderers (28%; 7%, respectively). The physical abuse of the rapists often took the form of

being smacked or hit (21%), and extreme acts (29%), while the sexual murderers were more often hit with an object (43%), punched and/or kicked (29%).

4.4.1.4 Age at first offence and previous offences

The sexual murderers had committed their first offence at a younger age (*M*=22.03, *SD*=7.38) than the rapists (*M*=25.34, *SD*=8.62), although this difference was not significant. The majority of offenders in both samples had some kind of history of previous offending (rapists 77%; sexual murderers 76%). A greater percentage of rapists reported having committed previous sexual offences (44%), previous violent offences (44%) and 'other' previous offences (67%) than the sexual murderers (29%; 40%; 63% respectively). However, these differences were not significant.

4.4.1.5 Pre-crime Factors

Prior to the index offence, the sexual murderers more often reported feeling under pressure from their families (53%) and from their current relationship (58%) when compared to the rapists (22%; 38%, respectively). The majority of both the rapists and the sexual murderer sample reported they did not feel in control of their life prior to the offence (70%; 76% respectively). Similarly, feelings of anxiousness and anger were reported by both the rapists (67%; 58%), and the sexual murderers (74%; 71%), just prior to the offence. Sexual murderers (45%) more often reported feeling that they had been humiliated prior to the offence than the rapists (25%). More than 40% of the rapists and approximately one- third of the sexual murderers were under the influence of some type of drug at the time of the offence, cocaine being the drug of choice for the rapists. More of the rapists (61%) reported fantasising about the intended offence within 48 hours of its commission than the sexual murderers (34%).

4.4.1.6 Victim characteristics

The victims ranged in age from 16 years old to 86 years of age (*Mdn*=27.00). The rapists offended against significantly younger victims (*Mdn*= 25.00; 16-78 years old) than the sexual murderers (*Mdn* =35.00; 16-86 years old) (U=864.50, z = -2.44, $p < .05$, r = -0.24). In approximately half of the offences, the victims were strangers to the offenders (rapists 61%; sexual murderers 47%). The most common victim behaviours during the offence were for the

victim to try to dissuade the rapist from committing the offence (48%) or to comply with the rapist's demands (63%). The frequency of these behaviours in the rapist sample was higher than in the sexual murderer sample (16%; 32%, respectively). Crying and/or pleading with the offender were also common victim reactions during the sexual offence (rapists 31%; sexual murderers 29%).

4.4.1.7 Modus operandi

While evidence of planning could be found in a proportion of both the rapists' (53%) and the sexual murderers' (29%) offences, significantly more of the rapists planned 1) their offence, 2) who their intended target would be, 3) and when the offence would occur. The sexual murderers typically used a weapon they had found at the scene, which again indicates a more spontaneous offence. The rapists were more likely to use non-lethal coercion, such as verbal threats ($X^2_{(1)}$ =15.04, p<0.001), threatening the victim with a weapon, and using force with no serious resulting injury to the victim ($X^2_{(1)}$ = 25.83, p <0.001). Although the rapists used coercion more often, the sexual murderers' use of coercion resulted in serious injury significantly more frequently ($X^2_{(1)}$ =16.88, p<0.001).

The victims of the sexual murderers were more likely to have been restrained, or unconscious ($X^2_{(1)}$ = 13.20, $p < 0.001$) during the offence, and although not significant they were more likely to have been strangled. The rapists used their penis to touch or penetrate the victim's vagina more often than the sexual murderers ($X^2_{(1)}$ = 22.82, $p < 0.001$), although, there were similar levels of occurrence between the groups for the penetration or touching of the vagina with a finger (sexual murderers 32%; rapists 38%) or by a foreign object (sexual murderers 11%; rapists 6%). Penetration or touching of the victim's anus was rare for both groups.

4.4.1.8 Mental Health

Table 4.1 displays the sexual murderers and rapists scores on the MCMI. The range of scores obtained by each group is included as well as the mean scores for each group, and the percentage of offenders whose scores were suggestive of clinical or personality disorder (based on the cut-off of 70). Approximately 50% of the rapists and 60% of the sexual murderers scored above the clinical cut off on the Anxiety scale. Antisocial Personality Disorder was suggested for one-third of both groups, with alcohol dependence indicated in

one-third of the rapists and one-quarter of the sexual murderer samples. Approximately one-third of both the sexual murderers and the rapists also indicated scores above clinical significance for the Depressive scale. While none of the differences in scores between the groups were significant, overall more of the rapists had scores suggestive of psychopathology than the sexual murderers.

Table 4.1

Range of Base Rate Scores, and Percentage of Rapists and Sexual Murderers with Raw Scores Greater than 74 and Greater than 84 on the Personality and Clinical Syndrome Scales of the Millon Clinical Multiaxial Inventory-III (MCMI-III)

	Total Sample	Rapists [a]			Sexual Murderers [b]					
MCMI-III Scale	Range (Base Rate Score)	Mean Score	75-84	>84	Mean Score	75-84	>84	F [c]	p	n^2
Schizoid	0 - 88	43.42	8.4	2.8	42.64	3.6	0.0	0.01	0.92	0.00
Avoidant	0 - 95	37.06	14.0	5.6	38.46	17.9	0.0	0.04	0.85	0.00
Depressive	0 - 111	56.22	16.8	11.2	53.14	28.7	7.2	0.17	0.68	0.00
Dependent	0 - 90	40.72	8.4	2.8	41.61	10.8	7.2	0.02	0.90	0.00
Histrionic	0 - 81	50.53	5.6	0.0	50.25	7.2	0.0	0.00	0.95	0.00
Narcissistic	10 - 96	54.36	5.6	5.6	52.14	3.6	0.0	0.36	0.55	0.01
Antisocial	0 - 96	56.24	25.2	5.6	59.93	21.5	10.7	0.38	0.54	0.01
Sadistic	0 - 104	42.19	2.8	5.6	42.57	3.6	0.0	0.00	0.95	0.00
Compulsive	0 - 99	51.67	11.2	2.8	50.82	10.8	0.0	0.03	0.86	0.00
Negativistic(passive-aggressive)	0 - 96	33.75	8.4	11.2	33.14	10.8	7.2	0.01	0.94	0.00
Masochistic (self-defeating)	0 - 93	39.89	14.0	2.8	41.75	14.4	7.1	0.06	0.81	0.00
Schizotypal	0 - 86	26.89	8.4	2.8	35.39	0.0	0.0	1.21	0.28	0.02
Borderline	0 - 95	45.28	11.2	8.4	43.5	3.6	3.6	0.08	0.78	0.00
Paranoid	0 - 92	39.36	2.8	8.4	28.64	0.0	3.6	1.99	0.16	0.03
Anxiety	0 - 102	52.92	25.2	19.6	58.61	42.9	17.9	0.44	0.51	0.01
Somatoform	0 - 71	33.31	0.0	0.0	20.11	0.0	0.0	3.35	0.07	0.05
Bipolar: manic	0 - 99	47.58	5.6	0.0	42.21	0.0	3.6	0.83	0.37	0.01
Dysthymia	0 - 104	41.19	11.2	2.8	45.71	7.2	0.0	0.37	0.54	0.01
Alcohol dependence	0 - 105	57.19	22.4	8.4	57.36	10.8	14.3	0.00	0.98	0.00

Drug Dependence	4 - 92	57.08	16.8	5.6	59.46	17.9	3.6	0.22	0.64	0.00
Posttraumatic stress disorder	0 - 78	44.19	5.6	0.0	45.86	7.1	0.0	0.06	0.80	0.00
Thought disorder	0 - 81	29.28	2.8	0.0	32.39	0.0	0.0	0.21	0.65	0.00
Major depression	0 - 103	39.36	2.8	5.6	29.18	0.0	0.0	2.06	0.16	0.03
Delusional disorder	0 - 104	29.31	0.0	2.8	31.07	0.0	0.0	0.06	0.81	0.00

a. N=36

b. N=28

c. d*f=1*

Overall	*F*	*df*	*df*	*p*	n^2
	1.15	1	62	0.34	0.42

4.4.1.9 Summary of Comparisons

The rapists and sexual murderers were found to differ significantly on only the minority of variables investigated. In terms of how the offence was committed, sexual murderers more often caused serious injury to their victims. In contrast, the rapists were more likely to use coercion. Contact with or penetration of the victim's vagina with the offender's penis was more common in the rapist sample. With regard to the victims, the sexual murderers targeted older women compared to the rapists. Overall, the rapists and sexual murderers differed significantly on only a very small proportion (6 out of 78 comparisons; 8%) of the variables investigated (see Tables 1, 2 and 3 for overview of comparisons), lending support to combining the two groups to form a continuum of sexual violence.

4.4.2 Pathways to offending

Having established that the rapists and sexual murderers were sufficiently similar to be further studied as one group of sexual aggressors, we investigated whether the offenders in our sample would form similar clusters to those reported in previous studies (e.g., Proulx & Beauregard, 2009 a, b; Beech, et al., 2005; Beech, et al., 2006). All of the variables mentioned in the previous section of this chapter were entered together into one agglomerative hierarchical cluster analysis. This method of clustering was chosen as it starts with each case as single clusters and then repeatedly merges the two closest clusters until a single, all encompassing cluster is left (Milligan & Cooper, 1987). Ward's method was used as it assumes that a cluster is represented by its centroid and it attempts to minimize the sum of the squared distances of points from their cluster centroids (Tan, Steinback, & Kumar, 2005) and has been found to be robust and consistently better for recovering clusters from bivariate data as well as multivariate data (see Milligan & Cooper, 1987; for a review of validation studies). This analysis resulted in three distinct clusters. Table 4.2 shows the percentage occurrences for all the personality profile, pre-crime, sexual lifestyle, and modus operandi factors across the resulting cluster groupings.

Table 4.2

Personality, Pre-crime, Sexual lifestyle and Modus Operandi across Offending Pathway

	Angry (n=35)*	Sadistic (n=28)**	Compensatory (n=39)***
Personality [a]			
Schizoid	45.1	39.1	44.2
Avoidant	37.6	33.7	40.9
Dependent	39.1	35.6	47.4
Histrionic	50.6	55.3	46.4
Narcissistic	53.1	60.2	48.4
Antisocial	51.8	61.4	61.1
Obsessive-Compulsive	55.2	54.6	44.8
Passive-Aggressive	28.2	31.0	40.7
Schizotypal	25.7	33.9	32.9
Borderline	39.5	46.1	48.3
Paranoid	27.7	37.3	39.7
	Angry (n=35)	Sadistic (n=28)	Compensatory (n=39)
Pre-Crime			
Any previous	71.4	67.9	87.2
Redundancy	5.7	0.0	12.8
Relationship breakup	48.6	57.1	38.5
Sexual problems	0.0	3.6	0.0
Idleness	31.4	64.3	61.5
Familial problems	20.0	28.6	30.8
Sexual Lifestyle			
Pornographic material	0.0	3.6	5.1
Prostitutes	11.4	10.7	5.1
Compulsive masturbation	2.9	35.7	0.0
sexual dissatisfaction	31.4	92.9	20.5
Number of sexual partners	45.7	32.1	46.2
Deviant fantasies	0.0	50.0	23.1
Modus Operandi			
Deviant sexual fantasy (48hrs)	8.6	50.0	89.7
Pre-crime anger	45.7	78.6	66.7
Explicit planning	14.3	60.7	59.0
Explicit victim selection	0.0	21.4	28.2
Victim prostitute	8.6	7.1	2.6
Restraints	25.7	82.1	23.1

Kidnapped/forced	5.7	14.3	17.9
Humiliation	11.4	10.7	7.7
Mutilation	2.9	0.0	0.0
Death of victim	57.1	53.6	7.7

4.4.2.1 Angry cluster

The first cluster contained 34% of the sexual aggressors. A large number of these individuals had a prior history of criminal offences, a degree of sexual dissatisfaction, a large number of sexual partners, and used prostitutes. They experienced a moderate degree of pre-crime anger, and often restrained their victims during the offence, some of which were prostitutes. They humiliated, and in some instances, mutilated their victims, and they had the highest level of victim death of the three clusters. Obsessive-Compulsive personality disorder was the most common personality disorder reported for this clustering of sexual aggressors, followed by Narcissistic and Antisocial Personality Disorders.

One offender in this cluster commented that he left home in the evening to go drinking, "looking for a fight". Having got thrown out of one pub, he hitched a ride home during which he sexually assaulted the victim. When she retaliated and hit him, he reported losing his temper, being physically and sexually violent towards her until he killed her. He then disposed of the body, leaving it bound and went home. Another man in this group reported that he started to resent and hate his victim and that by committing the offence he could take his feelings of anger and frustration out on his victim. These accounts illustrate the anger and frustration that often preceded the offences committed by the sexual aggressors within this pathway.

4.4.2.2 Sadistic cluster

The second cluster represents 28% of the sexual aggressors in the sample. They reported their lives prior to the offence to be unstructured and inactive, and often they had experienced some sort of relationship break-up leading up to the offence. What is particularly striking about this cluster are their levels of compulsive masturbation and sexual dissatisfaction. Half of these offenders engaged in deviant sexual fantasies, and just prior to their offence, they reported that these fantasies became more elaborate. Almost 80% of the offenders in this cluster reported experiencing anger during the 48 hours preceding the offence. These offenders explicitly planned their offence, both restraining and humiliating their victims. Just

over half of the group's violence toward the victim resulted in her death. Antisocial and Narcissistic Personality Disorders were the dominant personality traits, reaching relatively highly scores (60+). Histrionic traits were also evident in this clustering of sexual aggressors.

Self-centredness, ideas of grandiose self-importance and envy of others was expressed as a motivator by one offender in this cluster. He reported being jealous and envious of what other men who were going out with women had. He also articulated sexual dissatisfaction prior to the offence "I hadn't had sex for a while, for quite a long time". Another offender describes very candidly being sexually aroused and having deviant sexual fantasies concentrated around thoughts of sex with young girls and thoughts of raping a stranger female, then killing her, and then raping her after death. These fantasies he regularly masturbated to and which formed the 'plan' for his victim.

4.4.2.3 Sexually Compensatory cluster

The third cluster represented the final 38% of the sample. The majority of offenders in this group had previous convictions (87%), the largest percentage out of the three clusters. They reported experiencing redundancy and familial problems leading up to their offence. They explicitly planned their offences, including victim selection, and often forced or kidnapped their victim to go with them. The majority of these offenders engaged in elaborate deviant sexual fantasies within days of their offence, although deviant sexual fantasies were not a consistent part of their general lifestyle. While they experienced a moderate degree of pre-crime anger, this group had the lowest level of victim death. Approximately half of this group of sexual aggressors had a moderate score for Borderline, Narcissistic and Antisocial Personality Disorders.

One offender explains how he gained entry into his victim's home to commit the planned sexual assault: "and knocked on the door, and the lady came to the door, and I tricked my way in, said that I was a (regional) man and that there was something going on in the street and I tried to trick my way in." During an assault against a known victim, one offender commented to her: "how can this be rape if it's giving you pleasure?" and assaulted her on a second occasion in which she had to fake orgasm before he would stop.

4.5 Discussion

4.5.1 Comparison of rapists and sexual murderers

As has been reported in previous studies (e.g., Grubin, 1994; Oliver et al., 2007), a greater proportion of rapists were of an ethnic minority background, while the sexual murderers were more often White. This observation is similar to that found in Greenfield's (1997) sexual murderer sample, where sexual murder was more often committed by a White offender. In the current study, the rapists were more likely to be in a long-term sexual relationship at the time of the offence, and fewer reported experiencing difficulty making and retaining friendships compared to the sexual murderers. This supports previous findings that sexual murderers tend to be more socially isolated in comparison to rapists. It could be argued that the murderers see sexual offending as more appealing because it does not place demands on their self-confidence or their deficient social skills (Beauregard, Stone, Proulx, & Michaud, 2008; Pardue & Arrigo, 2008) and accommodates their feelings of inadequacy (Groth & Birnbaum, 1979).

Consistent with Beech et al. (2005), Langevin (2003), and Oliver et al. (2007), the sexual murderers committed their first offence at a younger age, although this difference did not quite reach significance. This highlights the importance and the need to detect early warning signs in adolescent sexual offenders (Langevin, 2003) before they have the opportunity to escalate further down the continuum of sexual violence. The victims of the sexual murderers tended to be older than rapists. This might be because the sexual murderers purposely target older victims because they are perceived as weak, vulnerable, and more available, similar to sexual murderers of children (Beauregard, et al., 2008). Another possibility is that the age of the sexual murderers' victims makes them more likely to succumb to their injuries.

Despite the fact that both groups showed an elevated occurrence of avoidant, depressive, and antisocial personality traits, along with anxiety, and alcohol/drug dependence, overall they did not significantly differ on their personality correlates. These findings are similar to those of Oliver et al. (2007), Proulx et al. (2002), and Proulx et al. (2007), which show that "rapists and sexual murderers have extremely similar personality styles and similar prevalence of personality disorder" (Oliver et al., 2007, p. 310). This highlights the more disturbed personality make up of these offenders in general.

Similar to Salfati and Taylor (2006), the rapists in this UK sample more often brought a weapon with them to the offence, used instrumental violence, and were more likely to

penetrate their victim's vagina with their penis rather than a foreign object. In contrast, the sexual murderers more often used weapons taken from the scene of the offence, used a level of violence that was beyond that needed to commit the assault, and although not significant, more often engaged in foreign object insertion. This supports the argument that rape and sexual murder occupy separate ends of a continuum of sexual violence. The difference between a sexual assault and a sexual murder seems more to do with the situation in which the offence takes place than the developmental, psychological, or criminological factors of the offender (Beech, et al., 2005).

4.5.2 Pathways to Offending

The works of Proulx and Beauregard, as well as other research (e.g., Beech, et al., 2005; Beech, et al., 2006), suggests three or four pathways to sexual offending, namely, the Sadistic, Angry, Sexually Opportunistic, and in some instances, the Compensatory. It is clear that the current clusters can be seen to represent these typical typologies. It can be argued that Cluster 1 and 2 share similarities with the Angry and Sadistic typologies. While, Cluster 3 has similarities found to be related to a Compensatory pathway.

The first group of Angry sexual aggressors (cluster 1), similar to Proulx and Beauregard (2009a), experienced anger just prior to the crime, and humiliated their victims, who were sometimes prostitutes. The act of sex for these offenders is a way to further punish and humiliate their victims and is not just for sexual gratification (Pardue & Arrigo, 2008). The resulting death of their victims could be linked to the offenders' aim of physically hurting their victim and the use of expressive violence throughout the offence (Groth & Hobson, 1997; Pardue & Arrigo, 2008; Proulx & Beauregard, 2009a), as their aggression often spans a wide range from verbal abuse to murder (Knight & Prentky, 1987). Again, similar to existing descriptions (e.g., Beauregard, Proulx, & St-Yves, 2007), they rarely engaged in planning their crimes and did not plan whom they were going to offend against, as their attacks are often precipitated by or induced by life circumstances (Pardue & Arrigo, 2008). They also reported lower levels engagement in sexual fantasies just prior to their offence. While none of the personality disorders reached significant levels, this group of offenders had moderate scores on Obsessive-Compulsive and Narcissistic Personality Disorder scales, indicating a fairly anxious individual who may be interpersonally exploitative of others (DSM-IV-TR American Psychiatric Association, 2000).

The Sadistic sexual aggressors in cluster 2 had moderate levels of relationship dissatisfaction, and relational problems, possibly resulting in their high level of pre-crime anger, and reported deviant sexual fantasies during the hours prior to their offence. Such fantasising may have aided in establishing an offence-script (Pithers, et al., 1988; Ward & Hudson, 2000) as the crimes of these offenders had been planned. Further, the excitement for the sadistic aggressor comes from the infliction of pain upon and the humiliation of their victim, which is meticulously planned beforehand, often in the form of elaborate sexual fantasies (Deu & Edelmann, 1997; Langton & Marshall, 2001). Consequently, this type of offender will stalk, abduct, and abuse their victim. Often they will murder their victims as a precaution against detection (Groth & Birnbaum, 1979). Thus, the sexual attack, and sometimes the subsequent murder, are planned and intended to inflict pain and cause terror for the victim. There is often prolonged contact with the victim, which can last hours or even days with the victim also being chosen based on the offender's fantasies. The offender's appetite for gratification and the killing process is fulfilled through the torture and mutilation of their victim (Keppel & Walter, 1999).

Many of these factors are apparent in the Sadistic pathway found in the current sample of sexual aggressors. For instance, they used restraints, force, and humiliated their victims, often resulting in the death of their victim, which is in line with Proulx and Beauregard (2009a,b) and other studies (i.e., Beauregard & Proulx, 2002; Beech, Fisher & Ward, 2005; Brittain, 1970; Dietz, Hazelwood & Warren, 1990; Gratzer & Bradford, 1995; Meloy, 2000; Warren et al., 1996). Personality scores of this cluster group were consistent with a highly narcissistic and antisocial individual, who had little concern for the feelings or needs of other people, exploited others to achieve their own goals (e.g., sexual satisfaction through victim suffering), and who showed a lack of remorse or empathy when doing so (DSM-IV-TR American Psychiatric Association, 2000). These were not consistent with Proulx and Beauregard's (2009a, b) sadistic pathway whose main personality disorders were avoidant, schizoid, and dependent. This could be a result of different criteria or methods for determining group membership.

The final group of sexual aggressors, the Compensatory (cluster 3), explicitly planned their crimes and whom they were going to offend against. They rarely humiliated their victim, although they did kidnap or forcibly move the victim to where the offence took place. In order to affirm their masculinity they exhibit strength and control over their victims, this also serves as a means for the offender to accommodate for their feelings of inadequacy (Groth & Birnbaum, 1979; Knight, 1999), and to compensate for their perceived lack of

positive self-image (Pardue & Arrigo, 2008). They had the lowest rate of victim death, indicating the use of non-lethal aggression during their sexual attack (Groth & Birnbaum, 1979). They also fantasised about their offence in the hours preceding it, which perhaps involved more manipulative rather than aggressive or coercive sexual behaviours, considering the possibility that they used non-lethal force. Often the assault is an expression of these fantasies (Prentky, Burgess, & Carter, 1986). A large majority of them had previous criminal convictions, were redundant, and reported idleness, indicating a generalised conflict with society. They had a large number of sexual partners, which could be related to their need for intimacy and continual reassurance of their masculinity (Pardue & Arrigo, 2008).

Borderline, Antisocial, and Narcissistic Personality Disorders, while not clinically significant were present in this group of offenders to a moderate degree. Indicating the individuals within this group have unstable interpersonal relationships (apparent in the current cluster), a de-valued self-image, with unstable emotions and feelings about themselves and others, and the tendency to violate the boundaries and rights of others (DSM-IV-TR American Psychiatric Association, 2000). Overall, for this group, these findings do not reflect the offending behaviour of either of Proulx and Beauregard's groups of sexual offenders. Although, these results do reflect the finding from studies on the power rapist described by Groth and Birnbaum (1979), the power-reassurance described by Keppel and Walter (1999), and the sexual non-sadist rapist of Knight and Prentky (1990), all of which can be seen as different forms of the compensatory sexual offender.

4.6 Conclusions

Comparisons of rapists and sexual murderers in previous research and within the current sample have all resulted in few differences being uncovered. These findings suggest that a single model of escalating sexual aggression against adult females, often centering on the level of coercion used to control the victim, would apply to both sets of offenders. In light of these findings, rapists and sexual murderers were combined into a single group of sexual aggressors against women and the relationship between different pre-crime, per-crime, and post-crime factors and their pathways to offending investigated. Agglomerative hierarchical cluster analysis of pre-crime, sexual lifestyle, modus operandi, and personality variables resulted in a three-cluster solution. The three clusters of offenders, labelled 'Sadistic', 'Angry', and 'Compensatory', were comparable, but not completely consistent, with those

found previously in studies by Proulx and Beauregard (2002; 2009a, b) and others (Beech, et al., 2005; Dietz, et al., 1990; Gratzer & Bradford, 1995; Warren et al., 1996).

The differences between the findings reported with this UK sample and those reported in existing studies (Gratzer & Bradford, 1995; Grubin, 1994; Langevin, 2003; Langevin et al., 1988; Milsom et al., 2003; Oliver et al., 2007; Proulx et al., 2007) could be the result of different methods used to collect the data (i.e., different interview methods/questions; the file information collected). In addition, the present data was collected from a sample of offenders engaged in a treatment programme. The majority of the data was reliant on self-reported information and it is possible that offences were misremembered and details omitted, or the interviewer may have been given false or misleading information. However, a strength of the current study was that all of the victims of the sexual aggressors were post-pubescent females.

Interpretation of the clusters was complicated by the limitations of the data and the variables available for the current sample. Some variables from the current data set had to be merged to more closely represent those variables present in Proulx and Beauregard's (2009a) studies. For example, it was not possible to include pre-crime factors concerning the offender's self-esteem or conflicts with women in the analysis because this information was not available, yet these were three variables that contributed heavily to Proulx and Beauregard's interpretation of their clusters.

Regardless, of these limitations, there was still some consistent findings between this and previous studies which lends support to the merging of rapists and sexual murderers into a single model of sexual aggressors against women, as well as their pathways to offending.

The usefulness of identifying supported pathways of offending for a combined sample of sexual aggressors against women can be seen in their use with regards to criminal investigative advice and analysis. The sexual offence is a process, or pathway, that develops over time, with many different influencing elements affecting each other at different stages of the offence process. Therefore, in order to understand the offence, and thereby the offender, the complete process or pathway of the offence needs to be considered. Understanding and investigating sexual aggression using pathways allows for the inclusion of both the 'person' and 'situation' component of the offence, as well as, a detailed description of what happened with regards to behaviour, feelings, motivations, and situational characteristics, before, during, and after the offence (Crabbe, Decoene, & Vertommen, 2008). These can then be used to help focus police investigations by providing relevant leads and strategies, and

eliciting, identifying and prioritising potential suspects (Mokros & Alison, 2002; Warren, et al., 1999).

4.6.1 Suggestions for future research

In future research, it would be beneficial to include more dynamic and changeable factors (i.e., beliefs, attitudes, cognitions, motivations) within the categories (i.e., pre-crime, general/sexual lifestyle) tested in the present study, especially as these factors are more amenable and readily targeted in treatment, allowing for the development of more accurate risk assessment (Fisher & Beech, 2007). Another area needing further study is the influence of situational factors on the perpetration of aggressive sexual offences against women as studies of escalation have found situational factors such as alcohol consumption, weapon use and victim resistance to be indicative of an increase in the severity of the sexual assault (Beauregard, Lussier & Proulx, 2009; Ch Pullman, Lussier, & Proulx, 2007; offender's behaviour should be considered in terms of both his underlying psychological processes and the situation and context in which the offence actually occurred (Crabbe, et al., 2008; Douglas, et al., 1992; Goodwill & Alison, 2007) as this interaction may influence the final result of the offence (i.e., death of victim).

Chapter 5, 6, and 7: The Potential Mediators between Crime Scene and Offender Characteristics

Chapters 5-7 build on the factors discussed in Chapter 2 with regards to intermediary factors within the A to C equation of Offender Profiling. Chapter 5 looks at five contextual variables, the use of drugs just prior to the offence, the use of alcohol just prior to the offence, location of initial contact with victim, location of actual offence, and the level of victim resistance, and the degree and nature of their influence when inferring offender characteristics from crime scene characteristics. Chapter 6 examines the occurrence and influence of implicit theories and the information they provide about the potential views the offender held about themselves, the people around them, and their world at the time of their offence. This chapter also provides the first part of the psychological make-up of the offenders discussed in the current thesis. The second part exploring the psychological make-up of the offender is Chapter 7, in the form of the potential motivations of the offender found in previous research: anger, sadistic, sexually opportunistic, and sexually compensatory. These provide a further exploration of the psychological meaning of the offender's crime and their motivations for sexually offending. The three chapters combined look at the potential relationships between the contextual and cognitive-affective aspects of the offender and their sexual offending behaviour.

Chapter 5: Context as a Mediator of the Interaction between Crime Scene and Offender Characteristics

5. Introduction

Offender profiling infers the relationship between offender characteristics from crime scene aspects. There has been a great deal of research done over the last three decades, some testing the accuracy of this assumption with mixed results, but the majority of what has been published with regards to offender profiling have been discussion pieces, lacking a clear theoretical framework leaving the underlying processes of offender profiling still not well understood (see Dowden, Bennell, & Bloomfield, 2007 for overview). Often, the relationship between crime scene and offender characteristics are tested as item-to-item comparisons, although there is more current research which indicates that this relationship may actually be influenced by the circumstances surrounding the offence. One example is Goodwill and Alison (2007) who found the relationship between offender characteristics (i.e. age) and crime scene information (i.e., victim age) to be moderated by other offence characteristic(s) (i.e., planning; level of aggression). Models from personality psychology, outlined in Chapter 2, would also suggest that the relationship between crime scene and offender characteristics is unlikely to be straight forward as originally thought (or hoped). This chapter will seek to explore possible contextual/situational factors that may influence the relationship between offender characteristic and offence characteristics during a sexual offence.

It is suggested by the Cognitive-affective personality system (CAPS) theory (Mischel & Shoda, 1995) that situation and context interact with psychological and personality aspects of a person to produce behaviour (Mischel, 1999). Under this theory the focus is to identify situational features that are relevant for the person whose behaviour we are interested in (Van Mechelen, & De Raad, 1999). The variability of behaviour seen across different situations, to some extent, may be the expression of the interplay between stable personality structure and the unpredictability of the situation (Mischel, Shoda, & Mendoza-Denton, 2002). Relating this to sexual offending, it can be postulated that different situational factors, such as the use of drugs or alcohol or victim resistance, will interact with the personality traits of the individual offender to produce certain offence behaviours (e.g., excessive aggression; use of a weapon).The offender may exhibit a number of variant behaviours during their crime, depending on the situation and the psychological features of the situation, but these will be distinctive and stable patterns of situation-behaviour relationships (Mischel et al., 2002;

Salfati & Bateman, 2005). Therefore, cross-situational variability is the exhibition of the flexible personality of the constructs and its stable underlying organisation characterized by *if...then...*relationships (Mischel et al., 2002). When the situationally determined *ifs* change so do the personality determined *thens*, although the *if...then...*relationships remain the same when the pairings remain the same (Mischel et al., 2002). The goal of the theory is to be able to make specific predictions about how people are likely to think, feel, and behave in and across certain kinds of situations (Mischel, 1968).

For the purposes of this study, and the thesis, the contextual factors chosen to be explored are 1) the location of the initial contact with the victim; 2) the location of the offence; 3) the use of drugs or alcohol just prior to the offence; and 4) the level of victim resistance. All of these have empirical support for playing significant roles in the process of a sexual offence, although the support for their influence on the offender's personal characteristics is less conclusive and abundant.

5.1 Location of Initial Contact and Offence

According to Canter (2004), one key area for the inferential process of offender characteristics from crime scene aspects is the environmental psychology of the crime. Within the subtext of the geometric and environmental theory, crime can be seen as an event, which occurs in a specific location and in a specific situation (Brantingham & Brantingham, 1981; Felson, 1987). There are a variety of factors, such the suitability and risk level of being caught, that influence the attractiveness and accessibility of an area or location; the opportunities to commit crimes; target selection; and the potential offence behaviours of offenders. Target selection, or the location of initial contact with the victim, may be influenced by factors more related to the characteristics of the area itself (e.g., isolation, number of potential victims/opportunities), while the actual crime location may be influenced more by the activity level and awareness of different geographical areas by the offender (Canter & Larkin, 1993; Frank, Andresen, & Brantingham, 2011; Frank, Dabbaghian, et al., 2011). The offender's criminal as well as legitimate and non-criminal movement around their environment (e.g., employment, school, social interaction) will influence both of these (Blackburn, 1993; Brantingham & Brantingham, 1981).

Furthermore, the individual differences between offenders (e.g., SES, age, sex) (Brantingham & Brantingham, 1981; Canter & Alison, 2000; Heth, Cornell, & Flood, 2002; Matthews, 1995) will play a part in the location of both initial contact and actual crime

location. Employment, socio-economic status (SES), and age, have been shown to influence the distances and locations travelled to by individuals often depending on their mode of transportation, the availability of amenities, and the location of resources (Mercado & Paez, 2009; Morency, Paez, Roorda, Mercado, & Farber, 2011). These factors (low SES, unstable employment, and younger age) have also been linked with persistent general offending (Gendreau, Little, & Goggin, 1996), and have been found in sexual offenders as potential risk factors (Polaschek, Ward, & Hudson, 1997; Simon, Sales, Kaszniak, & Kahn, 1992). This demonstrates, at the least, the potential links between an offender's demographics, their movement around particular and potential crime locations.

The psychological importance of the locations has also been found to have an influence on the location of sexual offences (Meaney, 2004; Mischel et al., 2002; Salfati & Bateman, 2005). For example, Canter and Larkin (1993), Kocsis and Irwin (1997), and Meaney (2004) found that serial sexual offenders tended to adopt a marauder style of offending, branching out to offender within a certain proximity to their home base, as opposed to travelling far distances to commit their crimes. This suggests a strong link between the location of the offender's home and their spatial behaviour (Canter & Larkin, 1993), as well as their offence site, and victim selection (Meaney, 2004).

Sexual offences can be motivated by interpersonal violence, with many opportunities for such to happen within any given location (Kocsis & Irwin, 1997), however, offenders often look for targets within a more restricted space. It is the interaction of the location of potential targets and the offender's awareness of that location that results in particular crime behaviour (Brantingham & Brantingham, 1984). Offenders learn from previous experiences and social interactions where and who would be 'good' targets for their offences (Brantingham & Brantingham, 1981), and frequently these locations will have particular significance or symbolic salience for the offender (Coucelis, Golledge, Gale, & Tobler, 1987). Often, these locations are those the offender frequents during their daily lives and routine, and they dictate the location and vulnerability of personal and property targets (Blackburn, 1993). Once a suitable hunting ground or offence location has been identified, and a suitable target chosen, there is still the necessity that any persons who would seek to stop or interfere with the offender is absent from the location before the offence to occur (Cohen & Felson, 1979; Clarke & Felson, 1993).

It has also been found that offence outcomes can differ depending on the location of the offence. Plye (1974) found that rapes tended to occur outdoors, in areas of urban renewal, temporary lodging, and construction. Canter and Larkin (1993) found that crime locations

chosen by a sample of serial sexual offenders adhered to a precise, circular region, with the vast majority of their sample living within this circular area. They suggest that there is a psychological basis for the offender's choice of crime location. Once the location of the sexual offence has been determined, another potential influencing factor of the offence outcome is the behaviour of and the interaction between the victim and the offender.

5.2 Victim Resistance

Another situational aspect proposed to influence how an offender commits their sexual offence is that of the victim-offender interaction, more specifically, victim resistance. Research suggests that outcomes of aggressive and violence interactions are at least partly a function of the events that occur during the incident (Felson & Steadman, 1983). It has been hypothesised that verbal and physical resistance by the victim may be correlated with verbal and physical attacks by the offender and that the more aggressive the victim the more aggressive the response from the offender. This interaction may be influenced by the presence of a weapon (Felson & Steadman, 1983), which may work in one of two ways: 1) to subdue the victim into compliance or 2) increase the amount of victim resistance. It has been shown that the more the victim resists there is a greater possibility of resulting severe injury to themselves (Block & Skogan, 1986; Ullman, 1998), and of greater sexual victimisation severity (Ullman, Karabatos, & Koss, 1999a), with the possibility of being killed rising as a result (Felson & Steadman, 1983).

Conversely, it has also been found that victims who respond with forceful physical or verbal resistance reduce the likelihood of a completed sexual assault (Block & Skogan, 1986; Ullman, 1998; Ullman & Siegel, 1993), without increasing their risk of physical injury (Kleck & Sayles, 1990; Ullman & Knight, 1992), especially in the instance of offenders using verbal pressure as opposed to physical force (Ullman & Siegel, 1993). According to Canter (1996):

> It is the variety of actions that happen in sexual attacks that indicate the different modes of relationship that offenders have with their victims. Any empirical model of offence behaviour must therefore encapsulate and explicate these variations in mode of interaction with the victim. (p. 192)

Therefore, in order to fully understand what has occurred during the course of a sexual offence the interactions between the offender and their victim need to be examined and

understood, with victim resistance being one aspect of this interaction. An example of the influence of victim resistance on offence outcome linked with offender perception was the work of Fritzon and Ridgway (2001). They found that how the offender perceived the victim would affect how the offender reacted if the victim resisted. The offender places their victim in certain roles, which are based on their previous interpersonal relationships, and their interactions with others (Canter, 1989). Depending on which role the victim takes will vary the level of power and control exhibited which will be reflected and represented in the corresponding crime scene actions (Canter, 1989). The different roles are the victim as a significant person; as a vehicle to achieve some external goal; or as a depersonalised object, each having their own implication for the levels of violence displayed by the offender if the victim resists. The most serious reaction to victim resistance is for victims who are seen as depersonalised objects, as here the victim resistance works to escalate the violence. For those victims who are seen as significant people, the use of resistance is more beneficial as it was more likely that the offender would try to change their behaviour, to try to calm the victim down rather than becoming more violent towards them. The victim role as a vehicle was found to have less of an influential role between offender and offence outcome.

The perception of the offender themselves, by the victim also plays a part in whether the victim resists the attack or complies (Luckenbill, 1981). The victim assess the capability of the offender being able to inflict serious injury dependent on whether the offender possesses lethal resources and is in a position to use them. The capability of the offender to inflict serious injury may be in the form of a weapon, such as the brandishing of a knife or gun, or can be dependent on the appearance of age, strength, and physical size. If they victim does not believe the offender is able to physically injury them, they may chose to resist. The willingness of the offender to use such force is also assessed by the victim, in two ways, whether they will use the force only in the face of victim resistance, or if they will regardless of victim resistance (Luckenbill, 1981). Again, if the victim believes that the offender will use lethal force if they resist they may choose to comply, whereas, if they believe the offender will use lethal force regardless, the victim may then choose to resist even in the face of serious injury. Therefore, if the victim believes the offender is *capable* and *willing* to inflict serious injury and/or death in the face of victim resistance, then often the victim will not resist and complies with the offender's demands. From this point, the offender than responds according to how they perceive the victim and the potential for further resistance from the victim (Luckenbill, 1981). Such research suggests that victim resistance may be a mediator for some offenders.

5.3 Alcohol and Drug Use

Alongside, the location of the offence and the victim-offender interaction, the use of drugs or alcohol prior to the offence has also been shown to be interconnected between the offender and his offence behaviours. There is evidence for the association between acute alcohol use with aggression (e.g., Chermack & Blow, 2002; Murphy, Winters, O'Farrell, Fals-Stewart, & Murphy, 2005), as well as acute drug use with aggression and violence, albeit less substantively (e.g., Chermack & Blow, 2002; Davies, 1996; Goldstein, 1985). Alcohol has been directly associated with the risk of sexual assault and is present in a large proportion of sexual assault incidents (Abbey, 1991; Pernanen, 1991; Rajaratnam, Redman, & Lenne, 2000). Alcohol just prior to an assault has been shown to be strongly related to violence and aggression (Busch-Armendariz, DiNitto, Bell, & Bohman, 2010; Bushman & Cooper, 1990; Collins & Schlenger, 1988; Ullman & Knight, 1993), with a direct association between pre-assault alcohol consumption by the offender and more severe sexual victimisation to the victim (Ullman et al., 1999a). Results looking at different categories of violent criminals (e.g., rapists; murderers; assault) have found similar results (Myers, 1986; Roslund & Larson, 1979; Tinklenberg & Ochberg, 1981; Wolfgang & Strohm, 1956).

Offenders' pre-assault drinking has been related to greater rape completion (Brecklin & Ullman, 2002) and to increased victim injury (Ullman & Brecklin, 2000). Although, it has also been found that more severe sexual victimisation in sexual attacks was more likely in instances where the offender did not use alcohol (Martin & Bachman, 1998), or no link has been found at all between offender drinking prior to the attack, physical aggression against the victim or likelihood of rape completion (Ullman, Karabatsos, & Koss, 1999b). Alcohol is clearly associated with the outcome of sexual assaults, although its exact role in physical injury still needs to be further explored, but it can be concluded that drinking alcohol is one of many situational factors associated with sexual assault (Ullman, 2003) and the interaction between offender and victim.

Links have also been found between offender demographics and alcohol consumption. Alcohol consumption and criminal behaviour have been shown to be interrelated, with greater usage found among juveniles and young adult offenders (Chermack & Blow, 2002; Collins, 1981), often leading to further criminal behaviours (Weiner et al., 2005) – signifying the development of a criminal history. As well, there have been links found between the use of alcohol, the level of injury inflicted, and relationship status of the offender (Chermack et al., 2010).

While drug use may be considered less important in sexual offending than that of alcohol use (Langevin & Lang, 1990), the use of different types of drugs have been found to affect different systems in the body (i.e., the Central Nervous System) (Rajaratnam et al., 2000). Drugs have been found to be influential in facilitating, triggering, and causing individuals to have violent outbursts (Goldstein, 1985; Weiner, Sussman, Sun, & Dent, 2005), altered mood states, and to enact criminal behaviours at the time (Rajaratnam, et al., 2000), as well as result in future criminal offending (Weiner et al., 2005). This effect may be exaggerated when drugs are used in conjunction with alcohol (Chermack et al., 2010). Therefore, while alcohol use may be more prevalent among sexual offenders than nonsexual violent offenders (Abracen, Looman, & Anderson, 2000), the use of drugs is still an important factor to consider in the offence process.

5.4 Aim of Chapter

The focus of this chapter therefore will be on the following contextual variables, which are hypothesised to have an influence on sexual offending: 1) use of drugs and/or alcohol just prior to crime; 2) location of initial contact with victim; 3) location of the offence; and 4) the level of victim resistance. As mentioned previously, these variables have been selected as they have often been proposed to influence sexual and general offending, and have been used in the development of some offender profiles. The general aim of the chapter is to explore which, if any, of the chosen contextual variables will influence the relationship of inferring offender characteristics from offence characteristics, and if these relationships can be used to predict or generate a pragmatic list of offender characteristics for the investigation of the offence and generation of a suspect list based on the available crime scene information, and possible influences of situational variation.

5.5 Method[31]

5.5.1 Sample

The sample consisted of 102 sexual aggressors (64 rapists; 38 sexual murderers) who had committed, and were convicted, of at least one sexual offence against an adult (16 years of age and above) female victim, and who were taking part in the Core SOTP between 1998 and 2002. For some of the analyses there was not complete information for all of the offenders. For the perpetrator age analyses information was available for 67 of the 94 offenders', except for the perpetrator age and level of injury analysis which had a sample of 45 as there were missing variables for level of injury within the dataset. Relationship status, any previous convictions, lives alone, and employed analysis with level of injury had a sample of 56 due to missing variables. The rest of the analyses had a sample of 94.

5.5.2 Data Coding[32]

See Table 5.1 for the coding of the offence characteristics (*X*), the coding of the offender characteristics (*Y*), and for the coding of the mediating variables (*M*). Each of these were operationalized by the degree they could be evident from the actual offence and crime scene information, as well as, the information contained in the offence details and the functional analysis questionnaire.

[31] See Chapter 4 for a full overview of sample and data collection methods. See Chapter 3 for a full overview of the statistical analyses used in the current chapter.

[32] See Chapter 3 for more detailed description of coded variables.

Table 5.1

Coding of Offence Characteristics (X), Offender Characteristics (Y), and Potential Mediators (M)

Offence Characteristics (X)	**Coding**
Level of Aggression	0=none/unknown 1=to control victim/instrumental 2=beyond controlling the victim/expressive
Level of Injury	0=none/no injuries 1=minor injuries 2=medium level of injuries 3=major injuries 4=unknown
Offence Outcome	1=murder 2=rape
Victim Age	Interval; 16 to 86 years of age
Weapon Used	0=not used 1=used
Sexual Penetration	0=none/missing 1=anal penetration with finger 2=anal penetration with penis 3=foreign object penetration vagina or anal
Offender Characteristics (Y)	**Coding**
Perpetrator Age	Interval; 14 to 57 years of age
Relationship Status (in a sexual relationship at time of offence)	0=no 1=yes
Any previous Convictions	0=no 1=yes
Lives Alone	0='other' 1=alone
Employed	0='other' 1=employed/student
Potential Mediators (M)	**Coding**
Use of Drugs During the Offence[33]	0=none 1=yes
Use of Alcohol During the Offence	0=none 1=yes
Location of Initial Contact between Victim and Offender	0=indoor 1=outdoor 999=unknown
Location of the Offence	0=indoor 1=outdoor 999=unknown
Victim Resistance	0=nothing/unknown 1=pleading/trying to talk offender out of offence 2=shouting help 3=verbally hostile towards offender 4=physically hostile towards offender

[33] There was no information available on the actual amount of drugs or alcohol taken; therefore, no indication of the actual level of intoxication.

5.6 Results

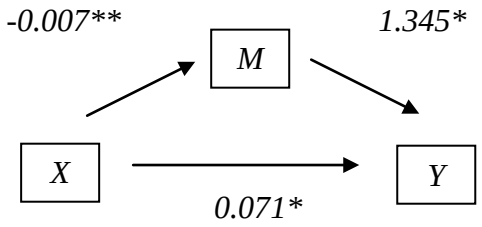
One hundred and twenty different mediations were run looking at the relationship between the five offender characteristics, four proposed mediating variables, and six offence characteristics. The figures for these analyses can be found in Appendix D, along with the tables of the Indirect and Direct Effects. Those that were significant will be discussed in the following sections.

5.6.1 Multicollinearity

Multicollinearity was checked for all variables included in the present study. None of the correlations between variables were above 0.40, the variance of inflation (VIF) ranged from 1.101 to 2.354, and the tolerance statistics (T) were between 0.425-0.903. These measures indicate a low likelihood of issues related to multicollinearity affecting the regression model (Field, 2009).

5.6.2 Mediation (Paths *a* and *b*), Indirect (*ab)*, and Total Effects

Overall, there was one partial mediation found between the offender having previous convictions (Y), the victim's age (X), and the location of the offence (M) (Figure 5.1). No other partial or full mediation was found. This partial relationship tentatively indicates that the older the victim the more likely the offence took place inside and that offender had previous convictions. As this was only a partial relationship, there is a direct positive relationship between victim age and previous convictions in that as victim age increased so did the likelihood that the offender had previous convictions. The partial mediation was supported by the indirect effects (see Table 5.2).



Regression Summary: -2LL=94.724, Model LL=16.577, McFadden=0.149, Cox Snell=0.150, Nagelkerke=0.226

**p<0.05; ** p<0.01*

Figure 5.1. Predicting Any Previous Convictions (Y) from Victim Age (X) through the Location of Offence (M).

Table 5.2

Indirect Effects of Victim Age on Any Previous Convictions through Contextual Variables (ab paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.000	0.010	-0.030	0.014	-0.027	0.017	-0.017	0.043
Alcohol	-0.000	0.002	-0.005	0.004	-0.006	0.003	-0.006	0.003
Location of Initial Contact	-0.004	0.006	-0.013	0.001	-0.014	0.001	-0.014	0.001
Location of Offence	**-0.010**	**0.010**	**-0.023**	**-0.001**	**-0.023**	**-0.001**	**-0.023**	**-0.001**
Victim Resistance	0.000	0.003	-0.005	0.008	-0.005	0.009	-0.005	0.010

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Indirect relationships were found between perpetrator age, drug use and the use of a weapon during the offence (Table 5.3), and perpetrator age, drug use and the enactment of the sexual penetrative behaviours (Table 5.4). If the offender had used a weapon there was a greater likelihood they were under the influence of drugs and potentially more likely to be older at the time of the offence. Again, the enactment of more sexually deviant penetrative behaviours during the offence indicated a greater likelihood of drug use prior to the offence, and combined were indicative of a potentially older offender.

Table 5.3

Indirect Effects of a Weapon Being Used on Perpetrator Age through Contextual Variables (ab paths)

				Bootstrapping					
		Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
	B	*SE*	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	**0.392**	**0.500**	**0.784**	**0.015**	**4.339**	**0.002**	**3.833**	-0.031	2.914
Alcohol	0.142	0.402	0.353	-0.866	1.206	-0.506	1.686	-0.490	1.762
Location of Initial Contact	0.062	0.402	0.154	-0.970	1.156	-0.821	1.304	-0.878	1.227
Location of Offence	-0.031	0.171	-0.184	-0.456	0.942	-0.486	0.927	-1.632	0.533
Victim Resistance	0.051	0.190	0.271	-0.700	1.093	-0.491	1.449	-0.569	1.288

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table 5.4

Indirect Effects of Sexual Penetration on Perpetrator Age through Contextual Variables (ab paths)

				Bootstrapping					
		Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
	B	*SE*	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	**0.202**	**0.217**	**0.932**	**0.018**	**2.071**	**0.010**	**1.894**	-0.012	1.461
Alcohol	-0.058	0.251	-0.231	-0.614	0.607	-0.709	0.501	-0.753	0.470
Location of Initial Contact	-0.070	0.167	-0.422	-0.583	0.281	-0.737	0.191	-0.777	0.185
Location of Offence	-0.017	0.068	-0.245	-0.239	0.293	-0.161	0.393	-0.403	0.212
Victim Resistance	-0.026	0.079	-0.324	-0.376	0.263	-0.599	0.143	-0.599	0.143

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Significant total effect[34] relationships were found for perpetrator age, level of injuries and offence outcome (Table 5.5); relationship status and offence outcome (Table 5.6); previous convictions, level of injuries and victim age (Table 5.7); and between the offender living alone and level of aggression (Table 5.8). The analysis indicates that the relationship between perpetrator age and level of injury was negative, therefore, as the level of injury increased the perpetrator's age decreased. The outcomes of the offence (rape or murder) also had a significant relationship with perpetrator age, with rape indicating an older offender and murder a younger offender, supporting the findings in Chapter 4.

It was significantly more likely that the offender was in a sexual relationship at the time of offence if the sexual offence was a rape, whereas, if the offence ended with the death of the victim then it was significantly more likely that the offender was not in a sexual relationship at the time of the offence. A positive relationship was found between the level of injury and previous convictions, indicating that as the level of injuries sustained by the victim increased in severity so did the likelihood that the offender had a previous conviction. There was a positive relationship between victim age and the offender having a previous conviction indicating that as the victim age increased so did the likelihood that the offender had previous convictions.

Table 5.5

Total Effects of Offence Variables on Perpetrator Age (c path)

		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.626	1.312	-0.477	0.635
Level of Injuries	**-2.064**	**1.005**	**-2.054**	**0.046**
Offence Outcome	**5.479**	**1.963**	**2.791**	**0.007**
Victim Age	-0.039	0.054	-0.731	0.467
Weapon Used	-2.771	2.444	-1.134	0.261
Sexual Penetration	0.182	0.985	0.185	0.854

[34] The total effect is the sum of the direct effect of offence characteristics (X) on offender characteristics (Y; *c'*) and the indirect effect of offence characteristics on offender characteristics (X on Y through M; *ab*).

Table 5.6

Total Effects of Offence Variables on Relationship Status (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.038	0.237	0.158	0.874	0.025
Level of Injuries	-0.268	0.243	-1.105	0.269	1.219
Offence Outcome	**0.912**	**0.431**	**2.116**	**0.034**	**4.476**
Victim Age	-0.005	0.011	-0.426	0.670	0.181
Weapon Used	-0.411	0.520	-0.789	0.429	0.624
Sexual Penetration	-0.214	0.213	-1.005	0.315	1.011

Table 5.7

Total Effects of Offence Variables on Any Previous Convictions (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.472	0.258	1.833	0.067	3.358
Level of Injuries	**0.548**	**0.260**	**2.107**	**0.035**	**4.441**
Offence Outcome	0.014	0.482	0.028	0.977	0.001
Victim Age	**0.059**	**0.024**	**2.491**	**0.013**	**6.207**
Weapon Used	0.174	0.619	0.282	0.778	0.080
Sexual Penetration	-0.176	0.230	-0.767	0.443	0.588

Table 5.8

Total Effects of Offence Variables on Lives Alone (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	**-0.583**	**0.275**	**-2.123**	**0.034**	**4.508**
Level of Injuries	-0.422	0.291	-1.450	0.147	2.103
Offence Outcome	-0.145	0.511	-0.283	0.777	0.080
Victim Age	-0.036	0.020	-1.836	0.066	3.369
Weapon Used	0.110	0.628	0.176	0.861	0.031
Sexual Penetration	-0.526	0.406	-1.297	0.195	1.681

5.6.3 Direct Effects of Offence Characteristics (X) on Offender Characteristics (Y)(*c'*)[35]

There were two groups of significant *c'* paths for perpetrator age: 1) level of injury and 2) offence outcome. The relationship between perpetrator age and level of injury was a negative one, indicating that as the offender's age increased the level of injury to the victim decreased. The relationship between offender age and offence outcome was a positive one, indicating as the offender's age increased so did the likelihood that the offence was a rape, as opposed to a sexual murder.

There was one significant *c'* path between relationship status and offence outcome, although these were just on the border of significance (p=0.05). Again, as with the total effect, and the findings in Chapter 4, this indicates that a rapist was more likely to be in a relationship at the time of their offence, then a sexual murderer.

There were two groups of significant *c'* paths for the offender having any previous convictions: 1) level of injury and 2) offence outcome. These findings indicate that as the level of injury increased so did the likelihood that the offender had previous convictions, and that the offence ended in a rape only.

There was one group of significant c' paths between the offender living alone and the level of aggression used by the offender. This indicates that as the level of aggression increased from instrumental to more than what was necessary to control the victim and

[35] Path c' is the direct effect of X (offence characteristics) on Y (offender characteristics) *independent* of the effects of M (Implicit Theories).

commit their offence, it was more likely that the offender did not live alone and was co-habiting. There were no significant c' paths for the offender living alone or being employed at the time of their offence.

5.7 Discussion

The aim of the chapter was to test for mediation between offender characteristics, offence characteristics, and contextual variables. As can be seen from the results, there was only one partially mediated relationship between these three groups of variables – victim age, the location of the offence, and the offender having previous convictions. In addition, indirect relationships were found between perpetrator age, drug use and the use of a weapon during the offence; and perpetrator age, drug use and the enactment of the sexual penetrative behaviours.

The influencing role that location plays in offending and the geographical analysis of crime is not a new concept, and was independently discovered by different individuals at different times (e.g., Brantingham & Brantingham, 1981; Kind, 1987; Rengert & Wasilchick, 1985; Rossmo, 2000). The geographical distribution of criminals and crime location was one aspect of the crime environment that was hypothesised to be instrumental in making reliable inferences between a crime scene and offender characteristics. The location of the actual offence was significantly related to previous convictions and the victim's age, which is in line with previous findings. A 2007 Home Office Report (Feist, Ashe, Lawrence, McPhee, & Wilson) found that over two-thirds of the rapes took place indoors (e.g., victim's home, offender's home), along with the fact that older victims tend to live alone and be more housebound (Walker, 1985) potentially steering the offence to happen indoors, and the findings that repeat offenders tend to commit their victim-related offences indoors (Denno, 1986). Warren et al. (1998) findings also partly support the current findings, as they found that those rapists with more extensive criminal histories, who travelled farther to offend, often burglarised victims in their own homes, and were more likely to be white, and older.

Literature shows that drugs and/or alcohol can alter a person's consciousness to varying degrees, and that this may affect their behaviour, and more specifically, whether or not they will commit a crime (Rajaratnam, et al., 2000). The results show that the use of a weapon during the offence was an indication that the offender had used drugs prior. This contrasts with Brecklin and Ullman (2001) who found no relationship between offenders' weapon use and pre-assault alcohol use, and Resignato (2000) who found no strong link

between drug consumption and an increase of murder or other violent crimes. However, it supports other findings that a large majority of violent offenders do report using drugs during the same period of their crime (Chaiken & Chaiken, 1982), and that drug users (e.g., cocaine users) exhibit more aggression compared to non users (Beachy, Petersen, & Pearson, 1979). While, the current findings did not support previous findings with regards to the positive relationship between pre-assault drug and alcohol use and level of injury suffered by the victim (Ouimet, Guay, & Proulx, 2000), or the level of aggression exhibited by the offender (Beauregard, Lussier, & Proulx, 2005), it may be hypothesised that the very use of a weapon during the offence yields the potential for increased probability of injury and constitutes a higher level of aggression, then say just using verbal coercion . The use of drugs prior to the offence was also an indication of an older offender, which is in contrast to the majority of research, which indicates a gradual decrease in drug use with age, although alcohol remains more prevalent with age (Fendrich, Mackesy-Amiti, Goldstein, Spunt, & Brownstein, 1995). This opposing finding could be the result of the 'lumping' of all the age categories of the current sample of offenders together, as Fendrich et al.'s study suggests that categorical analysis of age is needed. By not separating the age categories, the findings are only a representation of the average use over the entire sample, and the actual links between age and alcohol and/or drug use cannot be made as any the significant differences between the different age categories are masked.

Drug use and perpetrator age were also associated with the more sexually deviant behaviours. It may be that under the influence of drugs the offender enacts more sexually 'deviant' behaviours (e.g., anal sex) than that they would do, or could do, in their consenting sexual relationships. It has been found that drugs, and alcohol, both act as sexual disinhibitors and increase the likelihood of more risky sexual behaviours (Parker, Harford, & Rosenstock, 1994; Tapert, Aarons, Sedlar, & Brown, 2001). Although, with regards to offender age, it has been found that juvenile or younger offenders report wider varieties of sexual deviant interests then adult sex offenders (Zolondel, Abel, Northey, & Jordan, 2001). However, it was also found that sexual recidivists self-report more varied deviant sexual fantasies (Kenny, Keogh, & Seidler, 2001), and sexual deviancy has been found to be a risk factor for adult sexual recidivism (Hanson & Bussiere, 1998). If sexual recidivists are older offenders, this could explain the link between an ageing offender and their acting out of their deviant sexual fantasies.

Surprisingly, victim resistance was not causally linked with any of the offence characteristics or offender characteristics. Considering the support both for and against victim

resistance influencing the outcome of a sexual assault, a lack of significant finding within the current data set is both expected and yet still perplexing. This could be related to the majority the of victims in the sample using less physical means of resistance against their offender, as outlined in Chapter 4. Trying to dissuade the rapist from committing the offence; crying and/or pleading with the offender to stop, are behaviours requiring less physical reaction by the offender.

The combination of the direct and total effects point to an interplay between the three groups of variables even if there were not any mediated relationships. Specifically, the level of victim injury was able to provide information about both the perpetrator's age and whether they had any previous convictions. For both of these relationships the inclusion of the current potential mediating factors decreased the magnitude of this predictive relationship. Although, it was still the case that greater victim injury meant a higher likelihood that the offender was younger, and that the offender had previous convictions for various crimes. This is similar to findings of Baxter, Marshall, Barbaree, Davidson, and Malcolm (1984), who found that rapists who were younger at their index offence (compared to paedophiles or hebephiles) were non-sexually and sexually more criminal, and frequently used violence and/or weapons in their offences, increasing the potential to cause more serious victim injury.

The outcome of rape or murder was also informative about perpetrator age and their relationship status – indicating that rapists tended to be older than sexual murderers, and were more likely to be in a sexual relationship at the time of their offence. The inclusion of the potential mediators increased the strength of this relationship. These findings were supported both in Chapter 4 and by previous research looking at sexual aggressors of women and the finding that rapists tended to be younger and in sexual relationships at the time of their offence (e.g., Grubin, 1994; Milsom, Beech & Webster, 2003; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, Cusson, & Nicole, 2007)

Victim age was found to be positively related to the offender having any previous convictions, a finding mirrored in McCann and Lussier (2008) who found that juveniles who offended against adult victims (as opposed to peers) were more likely to continue to sexually offend. Therefore, as the victim age increases the likelihood that the offender has a history of offending is more probable.

Level of aggression exceeding that necessary to commit the offence implied that the offender did not live alone, and was co-habiting. As it was found in Chapter 4, approximately one quarter of the sexual aggressors lived with either a girlfriend or wife at the time of their offence. This finding could be related to the victim acting as a substitute for another

significant woman in the offender's life on which he is unable to take out his frustrations or rage. He therefore finds a victim with which he can – the notion that the victim acted as a vehicle for the offender (Fritzon & Ridgway, 2001). Potentially the expression of exaggerated violence could also be related to an anger-led motivation, as expressed in the Angry pathway found in Chapter 4, where the victim was used to expel their anger and frustrations, similar to the Male Sex Drive is Uncontrollable and/or Dangerous World implicit theories (explored in the next chapter) in which the offender's loss of control is externalised to the victim, and the perception of threat they pose to the offender.

5.7.1 Limitations

Any of the conclusions drawn from the above analyses need to be made with caution. Firstly, the offender characteristics, with the exception of perpetrator age, were coded dichotomously. This type of variable coding could also limit the more complex relationships between variables to more simple 'present' or 'absent' relationships. Therefore, the analysis may not have completely explored the full breadth of the possible relationships between the variables. Secondly, as the sample is small, and the variables are non-parametric, the results may not be indicative of a real effect, or they may be over-estimations of the magnitude of an association between variables. The smaller the sample size, the lower the power of the test, and the greater the likelihood of failing to reject a false null hypothesis (Hackshaw, 2008). The sample would need to be 3 or 4 times larger to achieve enough power to be certain about the findings.

Another constraint on the current findings is the limited number of possible contextual variables that could be explored in analysis. While all four had some theoretical backing for their influence on offending, they represent only a sample of the possible situational factors that could affect the relationship between sexual offences and sexual offenders' characteristics.

The current research is a starting point for the usage of mediation analysis and bootstrapping techniques to look at the relationship between offence characteristics, offender characteristics, and the possible intervening variables that may influence this relationship. Future research needs to look at different contextual variables than those presented here, as well as, the use of continuous or interval data within the analysis to allow for a richer understanding of the interaction between the different levels of factors involved in predicting offender characteristics from offence characteristics. Also, exploration of the effects of

concurrent multiple mediating variables is another possibility, as the use of alcohol and drugs have also been linked to the location of victim contact and crime location (Chermack et al., 2010).

Chapter 6: Implicit Theories as a Mediator between Crime Scene and Offender Characteristics

6. Introduction

The notion that sexual offenders see the world and their victims in self-serving and distorted manners is not a new one, although research has focused more on the actual content of their cognitive distortions, than on the theory underpinning them. Ward (2000; Ward & Keenan, 1999) argues that implicit theories (ITs) are surface level measurements of offence-supportive attitudes and cognitive distortions (Ward, Hudson, Johnston, & Marshall, 1997). These ITs are comparable to "scientific theories" which can be used by the offender to explain, predict and interpret the behaviours, thoughts, and beliefs of others (including their victim), and about the world in general. ITs help to control and provide structure to a person's internal life and link the individual with their social environment and give meaning for the events of their lives (Beech, Fisher, & Ward, 2005). Simply put, these perceptions of ourselves, and our environment, will ultimately dictate how we react and behave in different situations (Mischel & Shoda, 1995).

Looking at sexual offences specifically, Ward and Keenan (1999), Polaschek and Ward (2002), Polaschek and Gannon (2004), and Beech et al. (2005; 2006) examine the underlying causal theories surrounding the cognitive distortions expressed by samples of child molesters, rapists, and sexual murderers. Overlapping ITs for all of these samples include: Women/Children as Sexual Objects, Dangerous World, Uncontrollability, and Entitlement[36]. A further IT identified with regards to rapists of women is that Women are Unknowable/Dangerous, which can be seen as a subset of the Dangerous World IT.

6.1 "Women/child as Sexual Object" Implicit Theory

The Women/children as Sexual Objects IT sees people, both adults and children, as being motivated by their desire for pleasure, as sexual beings that desire and enjoy sexual contact. Within this theory, children have the cognitive ability, and are capable of identifying their needs and sexual preferences. They possess the knowledge and desire to make decisions about sex with adults, and even initiate and develop strategies to achieve their sexual goals. As a result of this, the offender views sexual activity as harmless and beneficial for the child

[36] With specific regard to child molesters, Nature of Harm was a further identified IT. Nature of Harm holds that there are degrees of harm (ranging from little or no harm to extreme damage) and that sexual activity in itself is actually beneficial and unlikely to harm a child. As well, sex is seen as inherently beneficial, and any negative connation is a result of the stigmas put on it from society etc., rather than from the actual act of sexual experience itself (Ward & Keenan, 1999).

(Ward & Keenan, 1999). According to this IT, women who are perceived to be constantly open to sexual advances and do not deliberately deceive men, but their nonsexual behaviour may be misinterpreted by men as having a sexual intention, even if the woman is unaware of the unconscious messages she sends. According to this IT, women are seen as constantly desiring sex, whether consensual, coerced or violent, and are fundamentally seen as sex objects (Beech et al., 2005; Polaschek & Ward, 2002). According to this theory, offenders justify their actions because by denying one's sexual needs, urges and desires, can distort and/or negatively influence a person's functioning. The expression of sex is a healthy and sacred experience that leaves people feeling secure, loved, and which is only harmful in extreme circumstances (Ward & Keenan, 1999).

6.2 "Dangerous World" Implicit Theory

The Dangerous World IT is based on the belief that people are inherently untrustworthy and rejecting, and will behave in a way that promotes their own interests and gains, regardless of others, making the world a dangerous place. In order for the offender to achieve dominance or control over others it is necessary to fight back first (Beech et al., 2005; Polaschek & Ward, 2002; Ward & Keenan, 1999). If a person, or child, is seen as a threat or as trying to dominate or hurt the offender, they need to be punished in order for the offender to re-assert their dominance and retribution. Or, on the flip side of this theory, the offender believes children will never exploit or reject them as the child is seen as more innocent, reliable, and accepting, and therefore as more trustworthy, and able to provide an offender with the potential to obtain love and be cared for (Ward & Keenan, 1999). In contrast, women are likely to become the victim of sexual abuse as they are perceived as threatening to the offender. The perceived malicious intention of others to dominate or hurt the offender is the focus of this IT (Beech et al., 2005; Polaschek & Ward, 2002).

6.3 "Male Sex Drive is Uncontrollable" Implicit Theory

The next IT, Uncontrollability, or Male Sex Drive is Uncontrollable, sees the world as uncontrollable and inevitable in its actions. A person is not able to substantially change anything that happens within their life, including their sexual feelings, or their emotions, all these *just happen*. Human nature is seen to be determined early on and is so ingrained that it cannot be altered, therefore early pertinent experiences (i.e., loss of a parent; sexual abuse)

can leave the offender with deviant preferences which cannot be suppressed, managed or controlled. As these urges are beyond their control (external to the offender), the offender does not see himself as responsible for them, or his sexually abusive behaviour, but may direct blame towards the object of their sexual desires (i.e., the victim) or other external factors such as stress or alcohol/drug intoxication (Ward & Keenan, 1999). Women are seen as having a major influence in a man's inability to control his sex drive, and are often the main variable in the loss of his control, especially if they deny what the offender deems as 'reasonable' sexual access (Beech et al., 2005).

6.4 "Entitlement" Implicit Theory

The Entitlement IT suppositions that as some people, namely men, are more important and more superior to others, their superiority gives them the power and the right to put their needs and desires over and ahead of those of others, often those of women. This illusion of grandeur, often based in gender, class, or some other factor, entitles the offender to special consideration, who's desires, beliefs, and needs are above everyone else's, and who's victim is there to meet these regardless of their own desires and/or beliefs (Ward & Keenan, 1999). This IT emphasises the offender's desires and beliefs as paramount. The victim is expected to acknowledge and accept this fact and that their own desires and beliefs are secondary and will be ignored (Beech et al., 2005; Polaschek & Ward, 2002).

6.5 "Women are Unknowable/Dangerous" Implicit Theory

The final IT, Women are Unknowable/Dangerous, sees women as entities that cannot be understood by men as they are intrinsically different from them, either due to biology or socialisation. Women are seen to be aware of these differences, and the fact that their own desires and needs are not compatible with those of men, and therefore they do not explicitly try to communicate them to men, but rather they present them in a hidden and covert (deceitful) manner (Beech et al., 2005; Polaschek & Gannon, 2004; Polaschek & Ward, 2002).

These implicit theories determine the way the offender will interpret different 'cues' and behaviours from their victims, and influence how the offender disregards or ignores possible alternative interpretations. Seemly innocuous behaviours such as a child requesting a hug from a family member may be interpreted as that child having a sexual interest in the

person by the offender, rather than the fact the child may want reassurance or is simply showing affection. Alternatively, the buying of a drink and dinner for a woman makes her morally obligated to have sex with the offender. The different implicit theories have different primary focuses such as the offender (entitlement and uncontrollability), the victim (sexual objects and women unknowable/dangerous), and the world (dangerous world), although they all have implications for each of these. These theories allow the offender to process and predict the behaviour of (potential) victims, and allow the offender to justify their offending against children (Ward & Keenan, 1999) and women (Beech et al., 2005; Polaschek & Gannon, 2004; Polaschek & Ward, 2002).

6.6 Aim of the Chapter

The purpose of the present study is to look at the relationship between the above identified ITs of sexual offenders, the characteristics of the offenders that hold different ITs, and the potential effects these may have on the way the offence is committed. The inclusion of ITs allows for a more robust understanding of the potential offender's psychological makeup and the underlying and internal psychological processes within an individual that results in their behaviour(s). If relationships are found this may help in the investigative process during witness and suspect interviews, as a means to identify attitudes that may be offence supportive. As the different ITs are related to the schemas the offender holds about their world and those they interact with, they may influence how they interpret and react during their offence (Elliott, 2010) to situational factors such as potential interruptions, or victim resistance. ITs can be viewed as forms of cognitive-affective units (CAUs) which are the mental representations of the "individual's construals, goals, expectations, beliefs, and affects..." (Mischel, Shoda, Mendoza-Denton, 2002, p. 53). These CAUs are stable within the personality and temperament of the individual, and evolve from the interaction and experiences based on culture, subculture (Mendoza-Denton, Shoda, Ayduk, & Mischel, 1999), and social learning history of the person (Mischel et al., 2002). Yet, while they are stable units of cognitive-affect, they will vary according to the accessibility, organisation, and interrelationships between the CAUs, changing situations, and interactions between the person and those they come into contact with (Mischel et al., 2002). For example, an offender who holds the Dangerous World IT may interpret victim resistance as a further example of the victim trying to hurt them and could therefore increase their own use of violence to subdue the victim. Funder and Colvin (1991) hypothesise that those behaviours which are

the result of more internal sources (e.g., schemas) may be more consistent across situations, such as crime scenes, and over time. The results of their study found exactly this. Across three different situations, behaviour coded according to its psychological meaning (e.g., fearfulness), as opposed to more concrete or specific micro-level units, were highly consistent – giving support to the behavioural consistency hypothesis of Offender Profiling. It could also be hypothesised that these ITs would be related to different offender characteristics as age and life experiences may shape the offender's internal schemas. Attitudes towards women and non-consensual sex can be influenced by and develop through the individual's attempt to understand their own experiences, and the attitudes of significant others in their life (e.g., friends, family, and abusers) (Hanson & Morton-Bourgon, 2005). While, their behaviour may not be exact across situations, the influence of and interrelationships of their CAUs and personality will be (Funder & Colvin, 1991; Mischel et al., 2002).

Some of the current research on ITs has looked at a few offender characteristics and offence characteristics. Beech et al. (2005) sorted their sample of 28 sexual murderers according to most common ITs and found three main groups by IT: 1) Group 1, heavily influenced by the co-occurrence of Dangerous World IT and Male Sex Drive is Uncontrollable ITs were more sadistically driven; 2) while Group 2, dominated by the Dangerous World IT only, were grievance driven; and 3) Group 3 were sexually driven, consisting of only the Male Sex Drive is Uncontrollable IT. They also looked at some offence characteristic difference between the three groups, supporting the notion that some ITs may be related to particular crime scene behaviours. Group 1 members reported that they had a prior intention to kill their victims, and that their offence was a means to carry out sadistic thoughts and fantasies against strangers, often sexually interfering with the body post-mortem. Moreover, they had a significantly higher history of reported violence against women. Resentment and anger towards women were the dominate motivations for Group 2. They often offend against women they knew, and they had the highest level of convictions for nonsexual and/or nonviolent offence out of the three groups. Group 3's offences were motivated by their thoughts and fantasies just prior to their offence of the prospect of having sex. They targeted adult women, the killing of the victim to avoid detection, or to keep their victim quiet.

Beech et al.'s grouping of offenders by both ITs, offender, and offence demographics shows that offenders can be differentiated by their ITs. Furthermore, these may correspond to different offence behaviour and offender characteristics which further develop the typology of sexual aggressors. That said, the level of statistical analysis done was at a basic level; the

percentages and frequencies of the occurrence of the ITs and different characteristics were calculated, alongside simple chi squares comparisons between the groups. The present chapter will aim to expand on what Beech et al. found and look to explore whether there are more substantial and significant relationships between the offender characteristics, with regards to the different IT, and offence characteristics. This will be done through mediation analysis.

6.7 Method

6.7.1 Sample

The sample consisted of 102 sexual aggressors (64 rapists; 38 sexual murderers) who had committed and were convicted of at least one sexual offence against an adult (16 years of age or older) female victim, and who were taking part in the Core SOTP between 1998 and 2002.

6.7.2 Content Analysis

The available transcripts and offence details for 94 of the original sample of 102 sexual aggressors were coded according to the content dictionary (Appendix E). The transcripts were of semi-structured interviews conducted with the offenders that asked about their experiences of treatment, during which they were asked about their offence(s). The questions were open-ended, and the first section of the interview questioned who the offender had offended against, their relationship to the victim, and what had led to their offence. Questions surrounding the motivation of the offence were asked by the interviewer to determine if the offence was related to sex or to anger. Other prompted questions were based upon the offenders' answers.

The content dictionary was developed using the information contained in the articles by Ward and Keenan (1999), Polaschek and Ward (2002), Polaschek and Gannon (2004), and Beech et al. (2005) regarding the identified implicit theories. The transcripts were individually coded by the primary researcher using the five ITs as coding categories. If an IT was evident from the transcript or offence details, it was recorded. The IT that was most dominant in the data was coded as the 'primary' IT and used in the analysis. This was done as the ITs are not mutually exclusive of one another and there was often more than one IT evident in the offenders' transcripts and offence details (as was the case in Beech et al., 2005). The primary IT was thought to best represent the influencing offence-supportive

cognitions activated at the time of the offence. The name of the IT was recorded for each of the available 94 cases. A random subset of 20 anonymised transcripts was coded by a second independent researcher who had no knowledge of the first coder's results. The inter-rater reliability of whether an IT was present in each account was assessed using Cohen's kappa. The overall agreement of the categorisation of the cases was high ($k = 0.80$; $p < 0.001$), indicating a substantial level of agreement (Landis & Koch, 1977).

6.7.3 Data Coding[37]

See Table 6.1 for the coding of the offence characteristics (*X*), the offender characteristics (*Y*), and for the coding of the mediating variables (*M*), which in this chapter are the ITs. Each of the offence and mediating variables were coded according to whether they could be identified from the actual offence, crime scene, victim, and the offence details. The offender characteristics were coded using the information available through the functional analysis questionnaire and the offender files.

[37] See Chapter 3 for more detailed description of the coded variables.

Table 6.1

Coding of Offence Characteristics (X), Offender Characteristics (Y), and Potential Mediators (Y; Implicit Theories)

Offence Characteristics	**Coding**
Level of Aggression	0=none/unknown 1=to control victim/instrumental 2=beyond controlling the victim/expressive 99=unknown
Level of Injury	0=none/no injuries 1=minor injuries 2=medium level of injuries 3=major injuries 99=unknown
Offence Outcome	1=murder 2=rape
Victim Age	Interval 16 to 86 years
Weapon Used	0=not used 1=used 99=unknown
Sexual Penetration	0=none 1=anal penetration with finger 2=anal penetration with penis 3=foreign object penetration vagina or anal
Offender Characteristics	**Coding**
Perpetrator Age	Interval 14 to 57 years
Relationship Status	0=no 1=yes
Any Previous Convictions	0=no 1=yes
Lives Alone	0='other' 1=alone
Employed	0='other' 1=employed/student
Potential Mediators: Implicit Theories	**Coding**
Women Unknowable/Dangerous	0=not indicated 1=indicated
Women as Sex Object	0=not indicated 1=indicated
Male Sex Drive is Uncontrollable	0=not indicated 1=indicated
Dangerous World	0=not indicated 1=indicated
Entitlement	0=not indicated 1=indicated

For some of the analyses there was incomplete information for all of the offenders, as the information was not coded for, was missing from the hard file of the Functional Analysis questionnaire, could not be ascertained from the transcripts of the semi-structured interview, or from the offence details. For the perpetrator age analyses, information was available for 67 of the 94 offenders, except for the perpetrator age and level of injury analysis, which had a sample of 45, as there were missing variables for level of injury within the dataset. Relationship status, any previous convictions, lives alone, and employment status analysis with level of injury had a sample of 56 due to missing variables. The rest of the analyses had a sample of 94.

6.8 Results

6.8.1 Occurrence of Implicit Theories

Four of the five ITs were present in the current sample. Dangerous World was the most frequently identified primary IT (40%), followed by Male Sex Drive Uncontrollable (31%), then Women as Sex Objects (22%), and lastly, Entitlement (6%). Women are Unknown/Dangerous was not indicated within the sample as a primary IT.

6.8.2 Multicollinearity

Multicollinearity was checked for all variables included in the present study. None of the correlations between variables was above 0.40, the variance of inflation (VIF) ranged from 1.203 to 5.638, and the tolerance statistics (T) were between 0.177-0.831. These measures indicate a low likelihood of issues related to multicollinearity affecting the regression model (Field, 2009).

6.8.3 Mediation (Paths *a* and *b*), Indirect (*ab),* and Total Effects (*c*)

One hundred and twenty different mediations were run looking at the relationship between the five offender characteristics, four proposed mediating variables, and six offence characteristics. The figures for these analyses can be found in Appendix F, along with the tables of the Indirect and Direct Effects. Those that were significant are presented below.

Overall, there were no fully or partially mediated relationships between the various offender characteristics, implicit theories (mediators) and offence characteristics. Concerning the indirect effects[38], the only relationship was found between sexual penetration behaviours and the offender living alone, when an entitlement IT was held by the offender as indicated by the confidence interval for this relationship, which did not include zero, 0.166 to 1.219 (see Table 6.2). In the presence of the Entitlement IT, if the offender had committed the more deviant sexually penetrative behaviours then they were more likely to be living alone at the time of the offence.

[38] The indirect effects of *ab* are the combined effects of paths *a* and *b* and their relationship with Y (Offender characteristics), independent of the direct effects of X (offence characteristics) on Y (Hayes, 2009; Preacher & Hayes, 2008).

Table 6.2

Indirect Effects of Sexual Penetration on Lives Alone through Implicit Theories (ab paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.032	0.088	-0.202	0.051	-0.278	0.026	-0.254	0.030
Women as Sex Objects	-0.001	0.090	-0.065	0.089	-0.083	0.071	-0.094	0.061
Male Sex Drive Uncontrollable	-0.018	0.073	-0.148	0.081	-0.183	0.059	-0.160	0.069
Entitlement	**0.539**	**0.235**	**0.166**	**1.080**	**0.178**	**1.131**	**0.202**	**1.219**

Significant total effect[39] relationships were found for perpetrator age, level of injuries and offence outcome (Table 6.3); relationship status and offence outcome (Table 6.4); and previous convictions, level of injuries and victim age (Table 6.5). The analysis indicates that the relationship between perpetrator age and level of injury was negative, therefore, as the level of injury increased it was more likely that the perpetrator's age decreased as well. The outcomes of the offence (rape or murder) also had a significant relationship with perpetrator age, with rape more likely indicating an older offender and murder a younger offender. This last finding is in line with the finding of Chapter 4 and 5 concerning the offenders' ages and offence outcome.

It was more likely that the offender was in a sexual relationship at the time of offence if the sexual offence was a rape, whereas, if the offence ended with the death of the victim then it was a greater possibility that the offender was not in a sexual relationship at the time of the offence. A positive relationship was found between the level of injury and previous convictions, indicating that as the level of injuries sustained by the victim increased in severity so did the likelihood that the offender had a previous conviction. There was a positive relationship between victim age and the offender having a previous conviction indicating that as the victim age increased so did the likelihood that the offender had previous

[39] The total effect (*c*) is the sum of the direct effect of offence characteristics (X) on offender characteristics (Y; *c'*) and the indirect effect of offence characteristics on offender characteristics through the implicit theories (X on Y through M; *ab*) (Hayes, 2009; Preacher & Hayes, 2008).

convictions. These latter two relationships were also in line with findings from Chapter 5. No direct effects were found between the offender living alone or being employed at the time of the offence and any of the offence characteristics.

Table 6.3

Total Effects of Offence Variables on Perpetrator Age (c path)

		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.187	1.307	-0.143	0.887
Level of Injuries	**-2.064**	**1.005**	**-2.054**	**0.046**
Offence Outcome	**4.321**	**1.850**	**2.335**	**0.023**
Victim Age	-0.015	0.051	-0.286	0.776
Weapon Used	-2.555	2.235	-1.143	0.257
Sexual Penetration	0.277	0.900	0.308	0.759

Table 6.4

Total Effects of Offence Variables on Relationship Status (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.021	0.265	0.079	0.937	0.006
Level of Injuries	-0.268	0.243	-1.105	0.269	1.220
Offence Outcome	**0.894**	**0.451**	**1.982**	**0.047**	**3.093**
Victim Age	-0.008	0.011	-0.686	0.493	0.471
Weapon Used	-0.435	0.527	-0.827	0.408	0.684
Sexual Penetration	-0.224	0.215	-1.040	0.298	1.082

Table 6.5

Total Effects of Offence Variables on Previous Convictions (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.233	0.300	0.776	0.438	0.602
Level of Injuries	**0.548**	**0.260**	**2.107**	**0.035**	**4.441**
Offence Outcome	0.036	0.533	0.068	0.946	0.005
Victim Age	**0.052**	**0.024**	**2.163**	**0.031**	**4.679**
Weapon Used	-0.065	0.633	-0.102	0.919	0.010
Sexual Penetration	-0.276	0.236	-1.170	0.242	1.370

6.8.4 Direct Effect of Offence Characteristics (X) on Offender Characteristics (Y) (*c'*)[40]

There were two groups of significant *c'* paths for perpetrator age: 1) level of injury and 2) offence outcome. The relationship between perpetrator age and level of injury was negative, indicating that as the offender's age increased the level of injury to the victim decreased. The relationship between offender age and offence outcome was positive, indicating as the offender's age increased so did the likelihood that the offence was a rape, as opposed to a sexual murder.

There was a significant *c'* path between relationship status and offence outcome, although these were bordering significance (p=0.05). Again, as with the total effect, and the findings in Chapter 4 and 5, this indicates that a rapist was more likely to be in a relationship at the time of their offence, than a sexual murderer.

There were two groups of significant *c'* paths for the offender having any previous convictions: 1) level of injury and 2) offence outcome. These findings indicate that as the level of injury increased so did the likelihood that the offender had previous convictions, and that the offence ended in a rape only. There were no significant c' paths for the offender living alone or being employed at the time of their offence.

[40] Path c' is the direct effect of offence characteristics (X) on offender characteristics (Y) *independent* of the effects of implicit theories (M) (Hayes, 2009; Preacher & Hayes, 2008).

6.9 Discussion

The aim of the chapter was to test for mediating relationships between offender characteristics, offence characteristics and possible implicit theories the offenders have with regards to their victim and the world in general. There was no indication of any partial or full mediation between the three groups of variables, suggesting no associated between the offenders' ITs, their offence characteristics, and their own characteristics. Even though there were no direct links between the offenders' ITs, offence details, and characteristics, the ITs were still identified within the current sample, as they have been in previous samples of rapists and sexual murderers (e.g., Beech et al., 2005; 2006). The offender's IT will influence how they interpret other people's actions, thoughts, and beliefs, and how they make predictions about the world. The offender will seek out environments and others that support their ITs (Beech et al., 2005). Despite the fact that there were no direct links found, this does not suggest or mean that the ITs do not influence the offenders, their actions, or their interpretation of their victim's thoughts and behaviours as both direct and total effect relationships were found.

Significant direct effect relationships (paths *c'*) and total effect relationships (path *c*) were found between offender age and level of injury and offence outcome (rape/murder); relationship status and offence outcome; and previous convictions and level of injury and victim age. To recap, path *c* in the mediation analysis represents the total effect of paths *ab plus* the direct effect of path *c'*, and thereby it encompasses the influence of all involved variables on one another. Path *c'* is the "effect of *X* on *Y* that is independent of the pathway through *M"* (predicting *Y* from *X*) (Hayes, 2009, p. 409), meaning it represents the direct relationship between *Y* and *X*. What the finding of both of these relationships indicates is that while there are direct relationships between some of the offence and offender characteristics, the proposed mediators, the ITs, are not necessary for this relationship to exist. Despite this fact, the ITs do have some influence in the strength of these relationships, whether it is by strengthening or weakening them. Even though the focus of the study was in the pursuit of mediating relationships, it is evident from the findings that that the relation between some of the offence and offender characteristics and ITs is more likely that of a moderated one (Baron & Kenny, 1986).

According to Baron and Kenny (1986), moderation implies that the relationship between two variables, the predictor and dependent variable, changes in direction and/or strength as a function of a third variable, the moderator. Moderation does not look at causal

relationships, but under what conditions does a variable have an effect on the outcome– under what conditions of B (moderator; IT) is A (predictor; offence characteristic) significantly associated with C (outcome; offender characteristics) (Baron & Kenny, 1986). It may be that the offender's implicit theories are not causal factors in determining their offences and who they are, but they may play a significant role in altering the strength of the associations between who they are and how they offend.

Looking at the differences between the coefficients for the significant *c* and *c'* paths for the relationship between perpetrator age and level of injury sustained by the victim, the inclusion of the ITs weakened the direct relationship between these variables. This was also the case between perpetrator age and offence outcome. The opposite effect was found for relationship status and offence outcome, previous convictions and level of injuries, with the inclusion of the ITs strengthening the relationship between the predictor and dependent variables. Although, for previous convictions and victim age the coefficient was the same for both paths *c* and *c'*, meaning there was no change in the relationship with the inclusion of the third variable, ITs.

Within the current dataset it was found that as the level of victim injury increased the offender age decreased. This indicates that younger offenders were more likely to cause more injuries to their victims. Combined with the current finding of a positive relationship between offence outcome and offender age (older offender more likely outcome of rape, not sexual murder), this is similar to the findings of Harry, Pierson, and Kuznetsov (1993). They found aggressive younger offenders tended to attack older victims, with the increase in violence and injury leading to more victim deaths. This could be due to older offenders using less injurious practices, or the utilisation of more strategic forms of coercion (e.g., verbal threats) within the offence, or possibly as a result of increasing knowledge of offending (i.e., practice of offending; multiple attempts) as the offender ages. Groth (1977) also found that victims of the same age or those significantly older than the offender were more likely to have a weapon used against them, increasing the potential for resulting victim injury. This finding conflicts with the positive relationship between offender age and victim injury found in McDermott and Hindelang (1981) and Felson and Krohn (1990); with older offenders more likely to use non-strategic violence[41] and weapons, resulting in higher levels of victim injury, and possible death. They postulate this could be a result of younger offenders offending for more sexually

[41] Strategic violence is only what is necessary to complete the offence, whereas, non-strategic violence, threatened or overt, is violence which is beyond what is necessary or needed in order for the offender to commit their offence (Felson & Krohn, 1990).

motivated reasons and therefore, being less likely to harm their victim unless it is necessary to complete their crime, facilitate escape, or avoid prosecution (Felson & Krohn, 1990).

These findings could also be linked to the offender's attitudes towards women, even if not found directly in the current study. Depending on the engrained IT theories, offender age, and/or experiences, if the offender views women as sex objects or as a threat in some perceived form, then this may disinhibit the use of violence and increase the likelihood of a sexual assault occurring, as they re-interpret situational and victim behaviours to match their internal schemas. Research by Malamuth (1986) suggests that sexual arousal to rape and various attitudes towards women may decrease inhibition in some men, leading to more coercive sexual behaviours. It could be hypothesised that as the offender ages and gains more experience both generally and in his offending, his practices and attitudes may evolve and change. This could lead to more strategic violence being used as he learns 'better' more efficient ways to effectively commit his offences and control his victims.

Older victims and increased victim injury both indicated a greater likelihood of the offender having previous convictions. This finding is in line with Francis and Soothill (2000), and Rice, Harris, and Quinsey (1990). They found having previous violent sexual offences often indicated that the offender was more likely to commit further, often more serious, violent offences (i.e., homicide). Furthermore, offenders who offended against adult (older) victims, use more violence and inflict more injury to their victim (Kuznetsov, Pierson, & Harry, 1992). These offenders were also those that had higher degrees of non-sexual criminal histories (Harry et al., 1993). This idea of the escalation of violence and offending behaviour is not novel and is briefly described in Chapter 4).

The positive relationship between victim injury and previous convictions could indicate that the offender may be using his victim as more of a "vehicle" for his expression of anger, resentment, or frustrations towards the world and system he has been involved in (Canter & Heritage, 1990). The offender's victim can act as a surrogate for other people (i.e., girlfriend, wife, mother) and/or experiences (i.e., prison, criminal justice system) in his life that he has perceived as having harmed or taken advantage of him, or who he perceives as threatening to him. The offender uses excessive violence, verbally, physically, and sexually (e.g., anal penetration), against the victim because they are seen as a general target upon which the offender can vent his frustrations. They do not represent a specific person or object, but some generalised 'other' – consistent with the Dangerous World IT. It could be postulated that offenders with previous convictions and therefore bad experiences with the criminal justice system may express and act out their anger towards this system and their

experiences within the system on their victim. This supports, in part, the escalation research showing that re-offending sexual offenders escalate in their sexual offending. Often at a higher frequency, inflicting more serious injuries, and committing more sadistic and callous acts (e.g., foreign object insertion) during their latter offences (Hazelwood, Reboussin, & Warren, 1989; Warren et al., 1999), and in the Warren et al. study the Increasers also sexually assault significantly older victims (40 years or older) even when offender age was controlled for.

As was found in Chapter 4, an offence outcome of rape was more likely for an offender who was currently in a sexual relationship at the time of the offence, often with which they were dissatisfied. The offence may be a way for the offender to gain sexual gratification, or to vent his general and/or sexual frustrations, or to 'punish' his partner for any inadequacies he may perceive are her fault or for which he blames her. This may be especially true if he holds the Women as Sex Objects, Male Sex Drive is Uncontrollable and/or Dangerous World ITs. Or this finding may be linked with the fact that sexual murderers in general have been found to be more socially isolated (Milsom, Beech, & Webster, 2003), have difficulty maintaining social relationships because of low self-esteem, deficient social skills and feelings of inadequacies (Beauregard, Stone, Proulx, & Michaud, 2008; Groth & Birnbaum, 1979; Pardue & Arrigo, 2008), and are therefore less likely to be in a sexual relationship at any given time.

6.9.1 Limitations

The lack of any mediating relationship within the current chapter could be a result of how the variables were coded. While the inter-rater reliability was high, and the content dictionary was based on the descriptions provided in various implicit theory articles, it could be that the concepts were not properly captured from the dataset when coding for the different implicit theories. This may be due to singular coding of only the primary IT. If the ITs interact to influence behaviour then by only coding for the 'primary' indication may suggest that meaning is lost with regards to the underlying mechanism behind the offence behaviours.

As the ITs were studied using interviews and file review the present research uses historic and retrospective data, which could be an influencing factor, as often the interviews were conducted some time after the offence. How the offender viewed their reasons for offending and the indications of existing ITs at the time of interview may not represent those, which were actually activated or present at the time of the offence. As well, the interviews

were not conducted for the purpose of the current study, so the questions asked and responses given may not entirely encapsulate the necessary information to assess which IT was actually present. Although, studies utilising questionnaires, interviews, and file-based measures have been successful in previous cognitive distortion and IT research (e.g., Beech et al., 2005, 2006; Polaschek & Gannon, 2004; Pollock & Hashmall, 1991).

The reliance on self-report in assessing the presence of ITs is also a potential limitation as this methodology relies on the assumption the offender could readily identify their motivations and reasons for offending and are able to express these during the interview. It may also be the case that the offenders, who were all on or had completed a sex offender treatment programme, were downplaying the extent of their sexist attitudes to show that they are capable of rehabilitation and reform. If this is the case, then it may be argued that the occurrence and significance of the ITs are higher than they were indicated to be in the current sample.

While the offender may hold a certain implicit theory, this does not have an apparent causal effect on their behaviour during the commission of their offence for the offence variables chosen, and does not directly link back to their own individual characteristics. The offence process may be influenced by the ITs the offender holds, as is more evident in the current findings by the fact that both the direct and total effects for a few of the variables were both significant. Yet, it is not clear whether the ITs initiate the sexual offending behaviour or if they act to maintain sexual offending behaviour once it has started. There is also for the potential of situational and contextual factors, which interact with the ITs, to influence the offence process as well.

While the current study did not find support for causal relationships concerning the ITs, offender characteristics, and offence characteristics, there is no question that the ITs held by the offender will influence how they perceive and interact with their surroundings, and the people they come into contact with, both potential victims, and in more general everyday life.

Chapter 7: Motivations as a Mediator of the Interaction between Crime Scene and Offender Characteristics

7. Introduction

Historically, the motivation often assumed to be behind a sexual offence has been that of sexual gratification, the sexual thrill of the offence, and/or the sexual intoxication that accompanies forcing sexual contact. However, other non-sexual motivations, such as the expression and/or displacement of anger and the exertion of power and control over another human being, have also been given support (Groth & Birnbaum, 1979; Pardue & Arrigo, 2008). It is evident in the use of physical violence displayed in a sexual offence that sexual offenders are not only and are not all driven by sexual impulses. It is acknowledge that sexual offences are committed for different reasons and that within any sexual offence there will be evidence of different motivations (Fisher & Beech, 2007), with some form of power and control being entwined throughout all of them; the most dangerous being that of a sadistic nature (Robertiello & Terry, 2007). Various typologies of the motivations for sexual offending have been developed to try to provide a more cohesive understanding of these offences, and to help guide clinical judgement (i.e., Beech, Fisher, & Ward, 2005; Fisher & Beech, 2005; Groth, Burgess, & Holmstrom, 1977; Keppel & Walter, 1999; Knight & Prentky, 1990; Proulx & Beauregard, 2009a, b). Many, if not all, of these, and other classifications of sexual offenders allude to or infer some type of motivation in their use of terms such as 'sexual/ly', 'control', 'sadistic', 'power', 'anger/aggressive', etc., as well as, make inferences about the motivations surrounding why certain behaviours were expressed during a rape or sexual murder. Yet, the determination of motivation is not always straightforward or easy to imply from the available offence information. Nevertheless, it is too important an aspect of any behaviour to be ignored or left out – motivation is necessary for any sexual offending to occur (Palmer, DiBari, & Wright, 1999). It is an imperative piece of the puzzle into answering the question 'Why' – why an offender chose to commit his crime, why he chose his victim, and why he committed the crime in the manner he did.

Generally, the study of sexual offenders has been for the purposes of clinical practice, risk assessment, and for the development of therapeutic interventions. Yet, most of the typologies developed with regards to sexual offenders could be of use for offender profiling as well (Beauregard, 2010). The different typologies (i.e., the FBI typology; Groth & Birnbaum, 1979; Knight & Prentky, 1987) focus on the offending process (i.e., how the

offender may have approached their victim; victim choice; possible reasons behind certain sexual aspects of the offence), and can help guide the search for unknown suspects. Offender profiling is concerned with building a portrait of an unknown offender using the available crime scene and victim characteristics, the inclusion of potential motivational aspects evident in these will provide a more detailed picture of the possible offender's psychological constitute, leading to more accurate inferences made about the possible suspects, and the possibility of more concise elicitation and prioritisation of these potential offenders. Four main types of motivations are evident in almost all typologies: opportunistic, compensatory, angry, and sadistic, and each of these will now be described.

7.1 Sexually Motivated: Opportunistic or Compensatory

The sexually motivated offender is preoccupied by sex, often has a feeling of powerlessness about their lives, and is driven by sexual fantasies about their victims (Beech, Fisher, & Ward, 2005; Keppel & Walther, 1999). Two different types have been identified. The sexually opportunistic offender will commit his sexual offence often during the course of another crime, is influenced by situational and contextual factors (Knight, Warren, Reboussin, & Soley, 1998), and often will have used alcohol before his crime (Proulx & Beauregard, 2009a). In contrast, the more sexually compensatory offender will explicitly plan their sexual offence (Vettor, Beech & Woodhams, *in press*). With regards to both, the use of strength, authority and control over their victims is a means for the offender to accommodate their feelings of inadequacy and to affirm their masculinity (Groth & Birnbaum, 1979; Knight, 1999) or to compensate for their perceived lack of positive self-image (Pardue & Arrigo, 2008). These opportunistic or compensatory sexual offenders will most likely have previous criminal convictions, be less likely to have steady employment and have more idle lives in general, indicating a generalised conflict with society and an antisocial lifestyle. They may also have a large number of sexual partners, relating to their need for intimacy and continual reassurance of their masculinity (Pardue & Arrigo, 2008).

Both of these sexually motivated offenders will use minimal, more strategic violence. Victim humiliation or mutilation, and severe injury are uncommon in their offences (Groth & Birnbaum, 1979; Proulx & Beauregard, 2009a), resulting in lower victim mortality (Groth & Birnbaum, 1979; Vettor et al., *in press*). However, victim death may result from 'overkill' as the offender attempts to re-gain his sense of control over the victim if the victim does not respond in a manner that fits the offender's preconceived fantasies (Keppel & Walter, 1999) or as a way to avoid detection (Beech et al., 2005; Clarke & Carter, 2000).

The behaviour of these sexually motivated offenders reflect similar behaviours of the rapists in some typology systems, such as the power rapists (Groth & Birnbaum, 1979), the power-assertive or power-reassurance offender (Keppel & Walter, 1999), the sexual opportunistic or non-sadist rapist (Knight & Prentky, 1990), the sexually triggered/aggressive control offender (Clarke & Carter, 2000) and the sexually motivated offender (Beech et al., 2005; Beech, Ward, & Fisher, 2006; Fisher & Beech, 2005).

7.2 Anger/Aggressively Motivated

According to Groth and Birnbaum (1979), rape is always an aggressive act. For those sexual offenders whose motivation is fuelled by anger or by aggression, the sexual aspect of the offence is not for their sexual gratification, but is an expression of frustration, resentment, and/or rage, and is a way to punish and humiliate their victims (Myers, Husted, Safarik, & O'Toole, 2006; Pardue & Arrigo, 2008).

The level of aggression for these offenders ranges from verbal abuse to extreme violence (Knight & Prentky, 1987; McCabe & Wauchope, 2005), but is usually far more excessive than what is needed to control the victim (Pardue & Arrigo, 2008). Often these anger motivated sexual offences are spontaneous and unplanned, shorter in length, and are fuelled by a build up of frustration and/or induced by life circumstances (Groth & Birnbaum, 1979; Groth, Burgess, & Holmstrom, 1977). Victim death as a result from their attack could be linked to the offender's desire to physically hurt and punish their victim, often resulting in extreme episodes of violence and anger (Beech et al., 2005). The angry sexual offender is driven by their need to achieve dominance and control over their victim as they seek vengeance against a perceived wrong brought against them (Beech et al., 2005).

These anger motivated offenders reflect similar behaviours reported for angry rapists (Groth & Birnbaum, 1979), the anger-retaliatory offender (Keppel & Walter, 1999), the pervasively angry or vindictive offenders (Knight & Prentky, 1990), the sexually triggered/aggressive dyscontrol offender (Clarke & Carter, 2000) and the grievance/violent motivated offender (Beech et al., 2005; Beech, Ward, & Fisher, 2006; Fisher & Beech, 2005), that form part of published typologies.

7.3 Sadistically Motivated

Myers et al. (2006) argue the primary motivation behind the offending behaviours of all sexual offenders is that of sadistic pleasure. Any other motivation (i.e., sexual gratification, anger, control or power) has secondary purposes – to either increase or heighten the sexual arousal, or the practical use of managing the victim so the offence can be carried out. While this may be true for a subsection of sexual offenders, as evidenced above, there are other primary motivations for sexual offending besides that of sadistic pleasure. Sadistic sexual offenders are represented by their fusion of sexual and violent motivations and the enjoyment of humiliating and distressing their victim (Beech et al., 2006). Sadistic sexual offenders use the physical and psychological suffering they inflict upon their victim to fuel their sexual excitement and arousal (Douglas, Burgess, Burgess, & Ressler, 2006). Their victim is seen as an inanimate object, towards which the offender has no empathy or concern (Canter, Bennell, Alison, & Reddy, 2003). They will often commit several types of torture (i.e., bondage, foreign object insertion, sexual mutilation) and degradation (i.e., hair cutting, cigarette burning, sex with a corpse) against their victim and feel no remorse for their actions (Canter et al., 2003; Pardue & Arrigo, 2008; Robertiello & Terry, 2007).

The sadistic sexual offender carefully plans his offences, often in the form of elaborate sexual fantasies (Deu & Edelmann, 1997), and takes preventive measures against being discovered, frequently murdering their victim as a precautionary measure (Groth & Birnbaum, 1979), the threat of which is meant to cause terror for the victim. He will often prolong contact with the victim, with the assault lasting hours or even days. He will have elaborate deviant and violent sexual fantasies which play a significant role in their offences (Deu & Edelmann, 1997; Pardue & Arrigo, 2008), often acting as offence-scripts (Pithers, et al., 1988; Ward & Hudson, 2000). The sadistic sexual offender is, more often than not, capable of functioning in society and recognising social constraints, but his narcissistic and egocentric personalities override any social norms and morals (Dietz, Hazelwood, & Warren, 1990).

These sadistically motivated offenders share similar behaviours of the following categories from typologies: anger-excitation sexual offender (Groth & Birnbaum, 1979; Keppel & Walter, 1999), the overt-sadistic rapist (Knight & Prentky, 1990), the sexually motivated offender (Clarke & Carter, 2000) and the sexually sadistic offender (Beech et al., 2005; Beech, Ward, & Fisher, 2006; Fisher & Beech, 2005).

7.4 Aim of the Chapter

The purpose of the present study is to look at the relationship between the motivations of sexual aggressors (sexual, sadistic, opportunistic or compensatory), the characteristics of these offenders, and the characteristics of their offences. The inclusion of motivations allows for the understanding of why the offence occurred, and of the offender who committed it. Motivations link with the implicit theories explored in the previous chapter, as well as, being integrated as part of the cognitive affective units of the CAPS model, as a part of the psychological makeup of the offender and the underlying processes that lead to their offending behaviour. If the psychological features of a situation can be determined then this information can be used to predict future behaviour in a broader range of situations that contain similar psychological features (Mischel & Shoda, 1995). These psychological features will interact with the situation with slight variations occurring, yet the psychological meaning of them will remain consistent, determined by the stable personality aspects of the individual (Mischel & Shoda, 1995).

While, motivations themselves may not be explicitly found at a crime scene, if certain crime scene aspects (e.g., level of injury; level of aggression exhibited; offence outcome) can be linked to motivations, then these can be used to infer the motives of the offender at the time of the offence, and therefore used in the development and the understanding of the offender and their corresponding profile. If it is found that the level of violence used is greater than that necessary to control their victim and complete their offence, it could be hypothesised that the offender was motivated by anger, also suggesting that the offender will have an extensive history of previous criminal convictions, comprising of sexual, violent, and non-sexual/non-violent offences (Beech et al., 2005; Beech et al., 2006; Proulx & Beauregard, 2009a,b). Similarly, sexual offences committed during other offences, such as burglaries, with minimal force or injury to the victim, or the lack of weapon use, may indicate an opportunistic or compensatory offender (Robertiello & Taylor, 2007), who have been found to more often be unemployed, or hold inconsistent employment status (Proulx & Beauregard, 2009a,b; Vettor et al., *in press*). The compensatory offenders are also more likely to be in a sexual relationship as they are in constant need of reassurance and intimacy (Pardue & Arrigo, 2008). These are just a few examples of motivations of the offender being linked with various crime scene characteristics in the literature, which in turn can be used in the inference of offender characteristics from the crime, and in the development of an offender profile.

The other area that motivations may provide assistance in the criminal justice process is in the punishment and treatment of sexual offenders once caught (Palmer et al., 1999). As mentioned previously, certain aspect of sex offender treatment programs target the beliefs and offence supportive cognitions that sustain the sexual offending behaviours of the offenders. Part of effectively targeting these, is identifying the motivations behind the offence and challenging them (Beech, Oliver, Fisher, & Beckett, 2005). As Robertiello and Terry (2007) point out, an important aspect of reducing sexual recidivism is by identifying the characteristics and motivations of the offender's offending behaviours, and addressing these accordingly. Chapter 4 of the current thesis, research by Proulx and Beauregard (2009a, b), Beech et al. (2005; 2006), as well as others (i.e., Knight, 1999; Polaschek, Hudson, Ward, & Siegert, 2001), have found various positive links between the various motivations and offender and offence characteristics. The current study explores the question of motivation specifically looking at the relationship between identified motivations, specific offender and offence characteristics and testing for actual links between these with the goal that they may be valuable in the production of an offender profile, the generation of suspect lists and prioritisation, as well as potential links with treatment.

7.5 Method

7.5.1 Sample[42]

The sample consisted of 102 sexual aggressors (64 rapists; 38 sexual murderers) who had committed and were convicted of at least one sexual offence against an adult (16 years of age or older) female victim, and who were taking part in the Core SOTP between 1998 and 2002.

7.5.2 Content Analysis

The available transcripts and offence details for 94 of the original sample of 102 sexual aggressors were coded according to the descriptions provided in the literature for Sadistic, Angry, Sexually Compensatory, and Sexually Opportunistic offenders (e.g., Beech et al., 2005; Beech et al., 2006; Clarke & Carter, 2000; Dietz et al., 1990; Fisher & Beech, 2005; Groth & Birnbaum, 1979; Keppel & Walter, 1999; Knight & Prentky, 1990; Pardue & Arrigo, 2008) (Appendix G). The transcripts were individually coded by the primary

[42] As was the case in Chapter 6, there was incomplete information for some of the offenders. See Chapter 6 section 6.7.3 for a description of the incomplete data.

researcher using the four motivations as coding categories. The motivation that was most dominant in the data was coded as the 'primary' motivation and used in the analysis. This was done as the motivations are not mutually exclusive of one another and there was often more than one motivation evident in the offenders' transcripts and offence details.

7.5.3 Data Coding[43]

See Table 7.1 for the coding of the offence characteristics (*X*), and Table 7.2 for the coding of the offender characteristics (*Y*). Each of the offence variables were coded according to whether they could be identified from the actual offence, crime scene, and victim, as well as the offence details. The offender characteristics were coded for through the use of the information available through the functional analysis questionnaire and the offender files.

[43] See Chapter 3 for a more detailed description of the coded variables.

Table 7.1

Coding of Offence Characteristics (X), Offender Characteristics (Y), and Potential Mediators (M)

Offence Characteristics (X)	**Coding**
Level of Aggression	0=none/unknown 1=to control victim/instrumental 2=beyond controlling the victim/expressive
Level of Injury	0=none/no injuries 1=minor injuries 2=medium level of injuries 3=major injuries 4=unknown
Offence Outcome	1=murder 2=rape
Victim Age	Interval; 16 to 86 years of age
Weapon Used	0=not used 1=used
Sexual Penetration	0=none/missing 1=anal penetration with finger 2=anal penetration with penis 3=foreign object penetration vagina or anal
Offender Characteristics (Y)	**Coding**
Perpetrator Age	Interval; 14 to 57 years of age
Relationship Status (in a sexual relationship at time of offence)	0=no 1=yes
Any previous Convictions	0=no 1=yes
Lives Alone	0=’other’ 1=alone
Employed	0=’other’ 1=employed/student
Potential Mediators (M)	**Coding**
Angry Motivation	0=not indicated 1=indicated
Sadistic Motivation	0=not indicated 1=indicated
Sexually Opportunistic	0=not indicated 1=indicated
Sexually Compensatory	0=not indicated 1=indicated

For some of the analyses there was incomplete information for all of the offenders, as the information was not coded for or was missing from the hard file of the Functional Analysis questionnaire, or could not be ascertained from the transcripts of the semi-structured interview, or from the offence details. For the perpetrator age analyses, information was

available for 70 of the 90 offenders, except for the perpetrator age and level of injury analysis, which had a sample of 45, as there were missing variables for level of injury within the dataset. Relationship status, any previous convictions, lives alone, and employment status analysis with level of injury had a sample of 56 due to missing variables. The rest of the analyses had a sample of 90.

7.6 Results

7.6.1 Occurrence of the Motivations

Anger was the most frequently identified motivation (40%), followed by Sadistic motivation (23%), then Sexually Opportunistic (20%), and lastly, Sexually Compensatory (17%).

7.6.2 Multicollinearity

Multicollinearity was checked for all variables included in the present study. None of the correlations between variables was above 0.60, the variance of inflation (VIF) ranged from 1.356 to 7.375, and the tolerance statistics (T) were between 0.136-0.840. These measures indicate a low to moderate likelihood of issues related to multicollinearity affecting the regression model (Field, 2009).

7.6.3 Mediation (Paths *a* and *b*), Indirect (*ab)*, and Total Effects (*c*)

One hundred and twenty different mediations were run looking at the relationship between the five offender characteristics, four proposed mediating variables, and six offence characteristics. The figures for these analyses can be found in Appendix H, along with the tables of the Indirect and Direct Effects. Those that were significant are presented in the following sections.

Overall, there were no fully or partially mediated relationships between the various offender characteristics, motivations (mediators) and offence characteristics. Concerning the indirect effects[44], the only relationship was found between sexual penetration behaviours and

[44] The indirect effects of *ab* are the combined effects of paths *a* and *b* and their relationship with Y (Offender characteristics), independent of the direct effects of X (offence characteristics) on Y (Hayes, 2009; Preacher & Hayes, 2008).

the offender having previous convictions, when the offence was motivated by Sexual Compensation, as indicated by the confidence interval for this relationship, which did not include zero, 0.001 to 0.204 (see Table 7.2). The enactment of the more deviant sexual penetrative behaviours was associated with the Sexually Compensatory motivation, which in turn was associated with the offender being more likely to have a history of previous convictions.

Table 7.2

Indirect Effects of Sexual Penetration on Previous Convictions through Motivations (ab paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.018	0.059	-0.072	0.158	-0.048	0.216	-0.054	0.203
Sadistic	0.016	0.161	-0.082	0.198	-0.049	0.514	-0.059	0.290
Sexually Compensatory	**0.076**	**0.060**	-0.008	0.185	**0.001**	**0.200**	**0.003**	**0.204**
Sexually Opportunistic	-0.058	0.414	-1.588	0.041	-1.632	0.039	-1.461	0.056

Significant total effect relationships were found for perpetrator age, level of injury, and offence outcome (Table 7.3); relationship status and offence outcome (just at significance level, Table 7.4), and previous convictions, level of injuries, and victim age (Table 7.5). The analysis indicates that an offence outcome of rape, as opposed to sexual murder, more likely indicated an older offender, while sexual murder indicated a young offender. Lower levels of victim injury was also associated with an older offender. It was also more likely that a rapist would be in a sexual relationship at the time of their offence. A history of previous convictions was tenuously associated with more severe injuries inflicted upon the victim by the offender, as well as by, increased victim age. Again, these relationships are consistent with those found in the previous chapters.

Table 7.3

Total Effects of Offence Variables on Perpetrator Age (c path)

		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.626	1.312	-0.477	0.635
Level of Injuries	**-2.064**	**1.001**	**-2.054**	**0.046**
Offence Outcome	**5.479**	**1.963**	**2.791**	**0.007**
Victim Age	-0.040	0.054	-0.731	0.467
Weapon Used	-2.771	2.444	-1.134	0.261
Sexual Penetration	0.182	0.985	0.185	0.854

Table 7.4

Total Effects of Offence Variables on Relationship Status (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.068	0.283	0.241	0.810	0.057
Level of Injuries	-0.268	0.243	-1.105	0.269	1.219
Offence Outcome	**0.888**	**0.457**	**1.941**	**0.052**	**3.769**
Victim Age	-0.014	0.012	-1.186	0.236	1.406
Weapon Used	-0.417	0.529	-0.788	0.431	0.621
Sexual Penetration	-0.217	0.216	-1.006	0.315	1.011

Table 7.5

Total Effects of Offence Variables on Previous Convictions (c path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.378	0.310	1.218	0.223	1.484
Level of Injuries	**0.548**	**0.260**	**2.107**	**0.035**	**4.441**
Offence Outcome	-0.051	0.535	-0.095	0.925	0.009
Victim Age	**0.054**	**0.025**	**2.141**	**0.032**	**4.582**
Weapon Used	0.005	0.633	0.007	0.994	0.000
Sexual Penetration	-0.251	0.236	-1.063	0.288	1.131

7.6.4 Direct Effect of Offence Characteristics (X) on Offender Characteristics (Y) (*c'*)

The significant c' path for perpetrator age was with regards to offence outcome. Perpetrator age and offence outcome were positively associated, indicating that as the offender's age increased the offence was more likely to result in a rape, rather than a sexual murder. There was one significant *c'* path with regards to relationship status and offence outcome (also found in Chapter 5 and 6) indicating that if the offence was a rape the offender was significantly more likely to be in a relationship at the time of their offence. There were two groups of significant *c'* paths for the offender having any previous convictions: 1) level of injury and 2) victim age. These findings, also found in Chapter 5 and 6, indicate that as the level of injury increased, or as the victim age increased so did the likelihood that the offender had previous convictions. There were no significant c' paths for the offender living alone or being employed at the time of their offence.

7.7 Discussion

The aim of the chapter was to test for mediating relationships between offender characteristics, offence characteristics, and the offender's motivations. There were no partial and full mediating relationships found between these three groups of variables, suggesting that the offender's motivations and their offence characteristics are not associated in a

manner to be able to predict the offender's characteristics from them. While, neither of the motivations was found to have direct links between the offenders' characteristics and offence details, the four motivations were still identified within the current sample. Also, one indirect relationship between the enactment of more deviant sexually penetrative behaviours and the Sexually Compensatory motivation, and the offender's history of previous convictions was found. Despite the lack of causal relationships found in the current study, the influence of motivations on the offending behaviour has been identified in previous studies (e.g., Beech et al., 2005; Beech et al., 2006; Knight, 1999; Polaschek, Hudson, Ward, & Siegert, 2001; Proulx & Beauregard, 2009a,b; Robertiello & Taylor, 2007; Vettor et al., *in press*).

As was found in Chapter 5 and 6, there were significant direct and total effect relationships between offender age and offence outcome; relationship status and offence outcome; and previous convictions and level of injury and victim age. Whilst, the inclusion of the motivations did not have causal, or mediating, effects on the relationship between offence and offender characteristics, they did affect the strength of, or moderate, the relationships between these pairings (Baron & Kenny, 1986). The relationship between perpetrator age and offence outcome was weakened by the inclusion of the motivations, as was the relationship between relationship status and offence outcome. Whereas, the strength of the overall associations between previous convictions, the level of victim injury, and the victim age were improved when the presences of the motivations were considered.

The process of interfering characteristics from crime scene aspects relies on sound theories that have been developed and tested empirically (Canter, 1995). The motivations identified within the current sample have been repeatedly found and established in different samples of rapists and sexual murderers (Beauregard & Proulx, 2002; Beech et al., 2006; Beech et al., 2005; Brittian, 1970; Cohen et al., 1969; Gratzer & Bradford, 1995; Groth & Birnbaum, 1979; Knight & Prentky, 1990; Knight et al., 1997; Proulx & Beauregard, 2009a; Proulx et al., 1999; Warren, Hazelwood, & Dietz, 1996). These classifications have been developed with the aim of distinguishing between different types of sex offenders based on offender and crime characteristics, and limiting the heterogeneity of sexual offending into more homogeneous classifications. The use of these homogeneous motivational classifications can then be used to create a working profile of those offenders who sexual assault which can be used to assist in the apprehension and sentencing of sexual offenders. They can also be used in the development and implementation of treatment and the prediction of future risk of re-offending as the motivations of sexual offender are very informative in

understanding the offender's perceived reasons for their offending (Beech et al., 2006; Mann & Hollins, 2007).

Outside of the motivational aspect, it was found that generally the older offender committed rape, as opposed to sexual murder, inflicted less severe injuries on their victim and was more likely to be in a sexual relationship. The infliction of more severe victim injury and the presence of an older victim were both indicative of the offender having a history of previous convictions. These findings combined with the motivational ones, start to provide an outline of potential offender descriptions, which could be used as part of the greater investigative process to help to elicit possible suspect lists, and potentially inform and target police resources.

7.7.1 Limitations

A main drawback of the present study is the inability to be confident that the replies given to the motivational aspects of the questionnaire and interview reflect the offender's actual motivations at the time of the offence. Their answers to the various questions may only represent socially learned reasons for violating social laws, and their desire to hide some aspects of their motivation in a bid to avoid being further ostracised for their transgressions (Mann & Hollins, 2007). Despite this, the motivations were still evident in the current sample, and were consistent with those found in other studies, which have used different data collection methods, gives support to the validity of the existent and potential influence of the identified motivations.

Chapter 8: General Discussion

8. Thesis Aims

The overall aim of the research presented in this thesis was to investigate the potential mediating factors that may influence the ability to accurately predict offender characteristics from crime scene characteristics; in other words, to look at potential influences on the A to C process at the heart of Offender Profiling, and the ability to infer causal relationships between offence and offender characteristics. The objective was to explore the influences of contextual variables, perceptual variables, and motivational variables in an attempt to understand the potential role they may play in how the offender commits their crime. The intent was to provide a more holistic, accurate and pragmatically useful profile of an unknown suspect which could in turn be used as part of an arsenal of investigative tools utilised by law enforcement in their investigation of sexual offences.

8.1 Summary of Findings

A critical review and summary of the literature on the different approaches to Offender Profiling found that each of the approaches, including the early and later theory-led Pragmatic approach, the Clinical approach, and the Statistical approach, had their own unique advantages, and underlying shortcomings. Regardless of the approach taken, there is mixed support for either of the main assumptions underpinning offender profiling; more for behavioural consistency than for homology. The lack of consistent support for these assumptions, and offender profiling, may lie in the fact that the process of inferring offender characteristics from offence is represented too simplistically, and does not address the complexity of human behaviour (Ahadi & Diener, 1989; Mokros & Alison, 2002).

The rationale for the current thesis was to address the gaps in the research looking at offender profiling and the ability to make inferences from crime scene variables to offender characteristics, by identifying and testing potential factors that may influence offending behaviour. The Cognitive-Affective Processing system (CAPS) developed by Mischel and Shoda (1995; 1998) is used as a theoretical basis for the inclusion and exploration of various potential mediating variables that may influence the ability to make appropriate inferences about the offender from their crime scene. The inclusion of this model was in order to make any findings comparable to previous literature as it has been used as theoretical support for why the assumptions of, and offender profiling itself, could be viable in previous research

(e.g., Alison et al., 2002; Markson, Woodhams, & Bond, 2010; Sorochinski & Salfati, 2010). The areas outlined for exploration in the current thesis were the context of the offence, such as the location of contact with the victim, or the use of drugs or alcohol just prior to offending, as well as the perceptions of the offender, which was investigated by identifying the offender's implicit theories. Lastly, the motivations of the offender is an area of research which is often avoided in the Offender Profiling literature as they are hard to infer from crime scene variables and their link back to offender characteristics is tenuous.

Often in the sex offending research, rapists and sexual murderers are investigated separately, under the assumption there are significant differences between the two groups of sexual offenders. Chapter 4 set out to explore the differences and/or similarities between sexual murderers and rapists of adult women to determine if there was sufficient evidence of similarities to combine the current sample of these offenders into one all encompassing sample of sexual aggressors of adult women. Supporting previous research (e.g., Grubin, 1994; Milsom, Beech & Webster, 2003; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, Cusson, & Nicole, 2007), it was found that there were only a minimal number of differences between the two categories of sexual offenders, indicating that rape and sexual murder can be seen as a single model of sexual violence, and not as two separate models of sexual homicide and rape (Salfati & Taylor, 2006). Since the two subgroups of sexual aggressors differed on only a few variables they were combined for the statistical analyses required to identify their pathways to offending. Past studies (Proulx & Beauregard, 2002, 2009; Proulx, Perreault, & Ouimet, 1999) have identified distinct pathways through multiple correspondence analysis and clustering techniques using information about pre-crime and modus operandi variables, victim and offender characteristics and situational variables with Canadian samples of incarcerated sexual offenders. The pathways to offending of the current combined sample of sexual aggressors were also examined, and three resulting pathways were identified: the Angry, the Sadistic, and the Sexually Compensatory. These were similar to those identified by Proulx and colleagues (Proulx, Perreault, & Ouimet, 1999; Proulx & Beauregard, 2002; Proulx & Beauregard, 2009) with their Canadian samples, with the addition of the Sexually Compensatory pathway and the omission of the Sexually Opportunistic pathway due to its lack of replication in the current sample.

As suggested in Chapter 2, the three remaining empirical chapters (5,6, and 7), examined the hypothesised mediators of the A to C equation of offender profiling. The offender characteristics selected for inclusion in the analysis were perpetrator age, relationship status, previous convictions, living and employment status, these represent the

type of variables predicted in offender profiles (Ault & Reese, 1980). The offence characteristics selected for analysis were level of aggression, level of victim injury, offence outcome, victim age, weapon use, and sexual penetration. Examining the relationship between contextual variables, offender characteristics, and offence characteristics, Chapter 5explored the influence of the use of drugs or alcohol just prior to the offence, the location of the initial contact with the victim, the location of the actual offence, and the level of victim resistance. Some support was found for the influence of drugs just prior to the offence and the location of the offence on the exhibition of various offence characteristics and aspects, such as weapon use and victim age. These relationships were also linked with certain offender characteristics, such as previous convictions and perpetrator age. Specifically, one partially mediated relationship was found between victim age, location of offence, and the offender having previous convictions, indicating that as the victim age increased, and if the offence was indoors it was more likely that the offender had previous convictions. However, this was only partially mediating, signifying that there was also a direct relationship between a victim's increasing age and the greater likelihood the offender had any previous convictions. It was also found that there was a significant relationship between perpetrator age, drug use and the use of a weapon during the offence, as well as, between perpetrator age, drug use, and the enactment of more sexual deviant penetrative behaviours. Combined these tentatively suggest that if the offender had used a weapon during their offence, or had enacted more sexually deviant behaviours, they were more likely to be under the influence of drugs and more likely to be older at the time of their offence. These findings were partially supported by previous research.

Implicit Theories (ITs) (internal schemas which are used to explain, predict, and interpret the behaviours, thoughts, and beliefs of others and the world) and how these may be related to the offender's characteristics and how they committed their offences was the focus of Chapter 6. The same offence and offender characteristics used in Chapter 5 were used in the analysis, with the five consistently found ITs, Dangerous World IT, Women as Sex Objects IT, Entitlement IT, Women Unknowable/Dangerous IT, and Male Sex Drive is Uncontrollable IT, also included. All but Women are Unknowable/Dangerous were indicated in the current sample as the primary IT present, although none were found to play a significant influence on the relationship between the offence and offender characteristics. Even though, there were no significant relationships found between the variables, the ITs do give insight into how beliefs and attitudes contribute to sexual offending as they provide information about the cognition- behaviour relationship (Mihailides, Devilly, & Ward, 2004).

Although, it is unclear as to whether they initiate sexual offending or serve to maintain sexual offending, and how they may interact with situational factors, so caution must be taken when making conclusions about the role of ITs in the causation of offending behaviour.

Chapter 7 followed on from Chapters 5, and 6, in the exploration of different mediating variables in the relationship between offender and offence characteristics, focussing on the offender's motivations for offending. The motivations explored were the same as those focused on in Chapter 4 and previous research, namely angry, sadistic, opportunistic, and compensatory. Despite the fact no significant relationships were found between any of the motivations, offender characteristics, and offence characteristics, motivations provide important information about the cognitive influences of sexual offending, and can help to address the questions of what offenders were thinking when they offended, and why they offended in the first place.

Direct relationships between crime scene aspects and offender characteristics were found in all three chapters. Offence outcome, the offender's age, and the offender's relationship status at time of offence were all related, with rapists being older (as opposed to sexual murderers) and more likely to be in a sexual relationship at the time of their offence – findings similar to those in Chapter 4 and supported by previous research (e.g., Grubin, 1994; Milsom, Beech & Webster, 2003; Oliver, Beech, Fisher, & Beckett, 2007; Proulx, Beauregard, Cusson, & Nicole, 2007). The offender having previous convictions was positively associated with victim age, while the level of aggression indicated that the offender was likely co-habiting at the time of their offence. Both of these relationships were supported by previous research. Although, there were no significant findings, ITs and the offender's motivations do give insight into how beliefs and attitudes contribute to sexual offending, even if it is unclear as to whether they initiate sexual offending or serve to maintain sexual offending, and how they may interact with situational factors.

8.2 Theoretical and Practical Applications and Limitations

The findings in this thesis have important implications for Offender Profiling and potential pragmatic usefulness in the investigation of sexual offences. Contextual aspects surrounding offending, the perceptions of the offender, and their motivation behind offending were individually explored to see which, if any, would play an influential role. The variables were chosen based on their use in offender profiles and because of their potential predictive validity as they have been found to affect the offending process.

8.2.1 Test of the Homology Assumption

As pointed out in Chapter 1 there is mixed support for the homology assumption of Offender Profiling, very few consistent and direct relationships have been found between offence and offender characteristics. The current thesis, did find support for the homology assumption. Direct relationships were found across the chapters with regards to predicting offender age from level of victim injury and offence outcome (rape/murder); relationship status and offence outcome; previous convictions from level of victim injury, and victim age. The relationship between younger offender age and the level of violent aggression, evident in increasing victim injury and more likely outcome of murder, supports previous findings that have shown how overtly aggressive offences are more likely committed by younger repeat offenders (Gebhard, Gagnon, Pomeroy, & Christensen, 1965; Harry, Pierson, & Kuznetsov, 1993). The finding that rape indicated an offender who was more likely to be in a relationship at the time of their offence, or the fact that sexual murderers were not, is supported by the research showing more social isolation and difficulty of making and maintaining close personal relationships for sexual murderers (Milsom et al., 2003).

8.2.1.1 Mediating Variables

There was only one partially mediated relationship found overall. This was between the location of the offence, victim age, and previous offender convictions. The interaction between these three variables is supported in previous literature (e.g., Feist et al., 2007; Warren et al., 1998). What the majority of the findings seem to suggest, at least for the three groups of mediators investigated in the current thesis, is that the inference of offender characteristics from offence characteristics is not mediated by other variables, but potentially, moderated by them. Whilst, there are direct one-to-one relationships between crime actions and offender characteristics, the strength of these relationships are inhibited or facilitated by situational, perceptual, and motivational factors. Therefore, the possibility of inferring characteristics is not an all or nothing situation, but perhaps rests upon the abundance of behavioural and contextual factors that shape predictive ability (Goodwin & Alison, 2007). However, care must be observed when inferring causations for behaviour as the exact role that contextual, cognitive, and motivational influences have on behavioural manifestations and in offending behaviour still remains unclear.

8.2.1.2 Practical Applications

One of the main areas of pragmatic usefulness of Offender Profiling is as a behavioural method to help narrow down the search for unknown offenders (Woodhams & Toye, 2007) and the prioritisation of potential suspects possessing specified characteristics (Oldfield, 1997) which the current findings could provide limited support for. For example, in rape investigations, the investigators could potentially prioritise older offenders, who are more likely to in a sexual relationship. In addition, if the victim is older and the offence happened indoors, this could indicate that the police look for a suspect who also has previous convictions. If the offence is sexual murder, than it is more likely that the offender is younger, and possibly not in a committed sexual relationship, with increased level of victim injury also increasing the chance of a younger offender, and one who has previous convictions.

The acknowledgment of situational factors may enhance the understanding of the relationship between offender actions and characteristics (Mokros & Alison, 2002). If certain situational and contextual factors are found to be associated with both crime scene behaviour and offender characteristics this information could be used to help direct police resources at a more targeted population of suspects. The current findings, at least tentatively, supports the influence of offence location on the relationship between certain offence characteristics, such victim age, and offender characteristics, such as having a previous criminal history. The location of the offence may be linked to the offender's regular daily activities, providing the offender with potential opportunity for the identification of prospective victims (Cohen & Felson, 1979), and providing the investigation with a location to start looking for information about a possible suspect.

The inclusion of more cognitive aspects of the offence (e.g., perceptions, motivations) has the potential to be beneficial for other areas of an investigation, such as suspect interview, and understanding potential 'change' across the crime series of a single offender. The inclusion of cognitive aspect can contribute to the understanding of the offender's decision-making process and their crime behaviour (Beauregard, Proulx, Rossmo, Leclerc, & Allaire, 2007). When deciding to commit a crime, an offender must decide (either implicitly or explicitly) what the various options of action are as well as their corresponding consequences. During this process, different situational and contextual variables can influence the consequences of alternative courses of action and thus the decisions made and the actions taken. These decisions are constrained by limits of time, opportunities, the offender's

cognitive abilities, and the availability of relevant information (Cornish & Clarke, 1987; Clarke & Felson, 1993). Additionally, the course of action decided upon is frequently the first one that is gratifying or beneficial, and not necessarily the most optimal one (Proulx & Beauregard, 2008). As such, the threat of punishment or the promise of a reward can motivate an offender to commit a crime (Scott, 2000).All of which may serve to enhance the reconstruction of the sexual offence (Beauregard & Fields, 2008).

The inclusion of contextual factors, routine activities, and the rational choices of offenders attempts to explain offending through decisions of cost/benefit, the motivation and interaction between person and behaviour, and how these are influenced by, and themselves influence, the contextual and situational factors. The combination of which starts to build a theoretical foundation underpinning of offender profiling, and a more complete understanding of all aspects of the offender, their offending behaviour, and the interaction of external constraints.

8.3 Limitations

Through each of the chapters the limitations regarding that study were explored, but an overall limitation of the thesis is the often over simplification of the coded variables to dichotomies. The main advantage of dichotomisation is the simplification of the results to an easily understandable level, but the cost is a loss of information and richness of the data (Farrington & Loeber, 2006), as well as the strength of association (Cohen, 1983) dependent on the measure of strength used (Farrington & Loeber, 2006). Despite this, there are benefits for criminological research because it does simplify results, making them understandable to a wider audience, such as police, with only minimal effect on the resulting analysis, as long as the right measures of association are used (e.g., tetrachoric) and the information lost is not imperative to the research question (Farrington & Loeber, 2006). With regards to the current thesis, there is a degree of relevant information lost through the dichotomisation of the variables, although this type of coding is utilised quite often in offender profiling literature due to limited nature of data access and collection techniques.

The present thesis was an exploratory study looking at the potential of mediating factors in the ability to infer offender characteristics from offence characteristics. The variables were chosen for their frequent inclusion in offender profiles and the information contained in police files (Ault & Reese, 1980; Mokros & Alison, 2002; Ressler, Burgess, & Douglas, 1988; Ressler & Douglas, 1985), but there remains some question as to how some

of the offence variables are supported by psychological theory in their ability to explain their relationships with offender characteristics. Many of the studies testing the homology assumption which consider potential influencing factors, such as situation and context, often only find support, or provide support for, the offence characteristics to moderating variables relationship (e.g., Beauregard, Proulx, Rossmo, Leclerc, & Allaire, 2007; Ullman, 2007; Ward, Hudson, & Keenan, 1998). The CAPS model (Mischel & Shoda, 1995) helps to give theoretical backing to the potential relationships between mediating or moderating variables and offence characteristics, but the theoretical support for why there should be relationships between mediators/moderators and offender characteristics, and between many offence characteristics and many offender characteristics remains inadequate (Snook et al., 2008). That said the link between potential mediators/moderators and offence characteristics is still an important and useful one, which needs further examination.

8.4 Conclusions

In a top-down approach, the underlying assumption of homology was tested against individual mediating influences to determine their reliability in predicting offender characteristics. Despite the fact that the approach was not largely successful in finding mediating relationships, there were indications of direct variable-to-variable relations, which were potentially moderated by the proposed mediators. The importance of going beyond a purely descriptive model of the relationship between offender traits, characteristics, and behaviours, and looking at the potential role that situational, cognitive, affective, and motivational variables play in the offending process is still very much needed. The role of mediating and/or moderating influences is a new area of research surrounding Offender Profiling. This thesis provides a glimpse into how the situation and context in which a sexual crime happens, and how the offender perceives his world and those around him, and his motivations for offending can influence the committal of the crime, and as well how these influences can interact themselves with the individual's characteristics to produce behaviour.

The future of offender profiling is an ever-changing prospect. More studies are being conducted to evaluate the methodology of "profilers", question long-standing ideals, employ 'new' statistical methods, and investigate the development and use of a multi-disciplinary approach. A multi-disciplinary approach sees profilers and psychologists as part of the investigative process working alongside the investigation. The knowledge they bring to any

investigation is a supplement to the already wide range of skills investigators already possess (Jackson, van de Eshof, & de Kleuver, 1997).

References

Abbey, A. (1991). Acquaintance rape and alcohol consumption on college campuses: How are they linked? *American Journal of College Health, 39,* 165-170.

Abel, G., & Osborn, C. (1992). The paraphilias: The extent and nature of sexually deviant and criminal behaviour. *Psychiatric Clinics of North America, 15,* 675-687.

ACPO. (2006). *Murder investigation manual.* Wyboston: National Centre for Policing Excellence.

Ahadi, S., & Diener, E. (1989). Multiple determinants and effect size. *Journal of Personality and Social Psychology, 56,* 398-406.

Ainsworth, P. B. (2001). *Offender profiling and crime analysis*. Devon: Willan Publishing.

Alison, L., Bennell, C., Mokros, A., & Ormerod, D. (2002). The personality paradox in offender profiling: A theoretical review of the processes involved in deriving background characteristics from crime scene actions. *Psychology, Public Policy and Law, 8,* 115-135.

Alison, L., & Canter, D. (1999). *Profiling in policy and practice*. Dartmouth: Aldershot.

Alison, L., Goodwill, A. M., & Alison, E. (2005). The madjenko, mascav and eve case: A study in linking and suspect prioritisation. In L. J. Alison (Ed.), *The forensic psychologists casebook: A practical guide in preparing reports on violent and sexual offences*. London: Willian.

Alison, L., Goodwill, A., Almond, L., van den Heuvel, C., & Winter, J. (2010). Pragmatic solutions to offender profiling and behavioural investigative advice. *Legal and Criminological Psychology,15,* 115-132.

Alison, L., McLean, C., & Almond, L. (2007). Profiling suspects. In: T. Newburn, T. Williamson, & A. Wright (Eds.). *Handbook of Criminal Investigation*. Devon: Willan.

Alison, L.J., Rockett, W., Deprez, S., & Watts, S. (2000). Bandits, cowboys and robin's men: The facets of armed robbery.. In D.V. Canter & L.J. Alison (Eds.), *Profiling property crimes* (pp. 75-106). Aldershot, England: Ashgate Publishing.

Alison, L., Smith, M. D., Eastman, O., & Rainbow, L. (2003). Toulimn's philosophy of argument and its relevance to offender profiling. *Psychology, Crime, and Law, 9,* 173-183.

Alison, L., Smith, M. D., & Morgan, K. (2003). Interpreting the accuracy of offender profiles. *Psychology, Crime, & Law, 9,* 185-195.

Alison, L.J., & Stein, K.L. (2001). Vicious circles: Accounts of stranger sexual assault reflect abusive variants of conventional interactions. *The Journal of Forensic Psychiatry, 12,* 515-538.

Alison, L., Snook, B., & Stein, K. (2001). Unobtrusive measurement: Using police information for forensic research. *Qualitative Research, 1,* 241-254.

Alison, L., West, A., & Goodwill, A. (2004). The Academic and the Practitioner: Pragmatists' views of Offender Profiling. *Psychology, Public Policy and Law, 10,* 71-101.

Allport, G.W. (1961). *Pattern and growth in personality.* New York: Holt.

Almond, L., Alison, L., & Porter, L. (2007). An evaluation and comparison of claims made in behavioural investigative advice reports compiled by the national policing improvements agency in the united kingdom. *Journal of Investigative Psychology and Offender Profiling, 4,* 71-83.

Alwin, D.F., Cohen, R.L., & Newcomb, T.M. (1991). *Political attitudes over the life span: The Bennington women after fifty years.* Madison, WI: University of Wisconsin Press.

American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders fourth edition, text revision*). Author: Washington, DC.

Amir, M. (1971). *Patterns of forcible rape.* Chicago: University of Chicago Press.

Arrigo, B.A., & Purcell, C.E. (2001). Explaining paraphilias and lust murder: Toward an integrated model. *International Journal of Offender Therapy and Comparative Criminology, 45,* 6-31.

Ault, R., & Reese, J. (1980). A psychological assessment of crime: Profiling. *FBI Law Enforcement Bulletin , 49,* 22-45.

Barbaree, H.E., Seto, M.C., Serin, R.C., Amos, N.L., & Preston, D.L. (1994). Comparisons between sexual and nonsexual rapist subtypes: Sexual arousal to rape, offense precursors, and offense characteristics. *Criminal Justice and Behavior, 21,* 95-114.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173-1182.

Bartol, C. (1996). Police psychology: Then, now and beyond. *Criminal Justice and Behavior, 23*, 70-89.

Beachy, G.M., Petersen, D.M., & Pearson, F.S. (1979). Adolescent drug use and delinquency: A research note. *Journal of Psychedelic Drugs, 11,*313-316.

Beauregard, E. (2010). Rape and sexual assault in investigative psychology: The contribution of sex offenders' research. *Journal of Investigative Psychology and Offender Profiling, 7,* 1-13.

Beauregard, E., & Field, J. (2008). Body disposal patterns of sexual murderers: Implications for Offender Profiling. *Journal of Police and Criminal Psychology, 23,* 81-89.

Beauregard, E., & Leclerc, B. (2007). An application of the rational choice approach to the offending process of sexual offenders: A closer look at the decision-making. *Sexual Abuse: A Journal of Research and Treatment, 19,* 115-133.

Beauregard, E., Lussier, P., & Proulx, J. (2009). Criminal propensity and criminal opportunity: An investigation of crime scene behaviors of sexual aggressors of women. In R.N. Kocsis (ed), *Criminal profiling: International theory, research and practice*. (pp. 89-113). Totowa, NJ: Humana Press Inc.

Beauregard, E., & Proulx, J. (2002). Profiles in the offending process of nonserial sexual murderers. *International Journal of Offender Therapy and Comparative Criminology, 46,* 386-399.

Beauregard, E., Proulx, J., Rossmo, K., Leclerc, B., & Allaire, J.F. (2007). Script analysis of the hunting process of serial sex offenders. *Criminal Justice and Behavior, 34,* 1069-1084.

Beauregard, E., Stone, M.R., Proulx, J., & Michaud, P. (2008). Sexual murderers of children: Developmental, precrime, crime, and postcrime factors. *International Journal of Offender Therapy and Comparative Criminology, 52,* 253-269.

Beech, A. R., Fisher, D., & Ward, T. (2005). Sexual murderers' implicit theories. *Journal of Interpersonal Violence, 20*, 1366-1389.

Beech, A.R., Oliver, C., Fisher, D., & Beckett, R.C. (2005). STEP 4: The sex offender treatment programme in prison: Addressing the needs of rapists and sexual murderers. Available electronically from www.hmprisonservice.gov.uk/assets/documents/100013DBStep_4_SOTP_report_2005.pdf

Beech, A. R., & Ward, T. (2004). The integration of aetiology and risk in sexual offenders: A theoretical framework. *Aggression and Violent Behavior, 10*, 31-63.

Beech, A.R., Ward, T., & Fisher, D. (2006). The identification of sexual and violent motivations in men who assault women: Implication for treatment. *Journal of Interpersonal Violence, 21,* 1635-1653.

Bennell, C., & Canter, D. (2002). Linking commercial burglaries by modus operandi: Tests using regression and ROC analysis. *Science & Justice, 42,* 153-164.

Bennell, C., & Jones, N. (2005). Between a ROC and a hard place. *International Journal of Investigative Psychology and Offender Profiling, 2,* 23-41.

Bennel, C., Jones, N., Taylor, P., & Snook, B. (2006). Validities and abilities in criminal profiling: A critique of the studies conducted by Richard Kocsis and his colleagues. *International Journal of Offender Therapy and Comparative Criminology, 50,* 344-360.

Berner, W., Berger, P., & Hill, A. (2003). Sexual sadism. *International Journal of Offender Therapy and Comparative Criminology, 47,* 383-395.

Blackburn, R. (1993). *The psychology of criminal conduct: Theory, research and practice.* Chichester, UK: Wiley.

Blackburn, R., & Fawcett, D. (1996). *Manual for the antisocial personality questionnaire (APQ).* Unpublished manuscript, University of Liverpool, UK.

Blackburn, R., & Fawcett, D. (1999). The antisocial personality questionnaire: An inventory for assessing personality deviation in offender populations. *European Journal of Psychological Assessment, 15,* 14-24.

Blau, T. H. (1994). *Psychological services for law enforcement*. New York: Wiley.

Block, J., Block, J.H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59,* 336-355.

Block, R., & Skogan, W C. (1986). Resistance and nonfatal outcomes in stranger-to-stranger predatory crime. *Violence and Victims, 4,241*-253.

Blumenthal, S., Gudjonsson, G., & Burns, J. (1999). Cognitive distortions and blame attribution in sex offenders against adults and children. *Child Abuse & Neglect, 23,* 129-143.

Bollen, K. A., & Stine, R. (1990). Direct and indirect effects: Classical and bootstrap estimates of variability. *Sociological Methodology, 20,* 115-140.

Boon, J. (1997). The contribution of personality theories to psychological profiling. In J.L. Jackson, & D.A. Bekerian (Eds). *Offender profiling: Theory, research, and practice* (pp. 44-59). Hoboken, NJ: John Wiley & Sons Inc.

Bowerman, B.L. and R.T. O'Connell. 1990. *Linear statistical models: An applied approach.* Second Edition. Belmont, CA: Duxbury.

Bradford, J.M., Boulet, J., & Pawlak, A. (1992). The paraphilias: A multiplicity of deviant behaviours. *Canadian Journal of Psychiatry, 37,* 104-108.

Brantingham, P., & Brantingham, P. (1981). *Environmental criminology.* Beverly Hills, CA: Sage Publications

Brantingham, P., & Brantingham, P. (1984). *Patterns in crime.* New York, NY: Macmillan

Brecklin, L. R., & Ullman, S. E. (2001). The role of offender alcohol use in rape attacks: An analysis of National Crime Survey data. *Journal of Interpersonal Violence, 16,* 3–21.

Brittain, R.P. (1970). The sadistic murderer. *Medicine, Science and the Law, 10,* 198-207.

Britton, P. (1997). *The jigsaw man*. Reading, England: Bantam Press.

Busch-Armendariz, N. B., DiNitto, D., Bell, H. & Bohman, T. (2010). Sexual assault perpetrators' alcohol and drug use: The likelihood of concurrent violence and post-sexual assault outcomes for women victims. *Journal of Psychoactive Drugs 42,* 393-399.

Bushman, B.J., & Cooper, H.M. (1990). Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin, 107,* 341-354.

Burgess, A.W., Hartman, C.R., Ressler, R.K, Douglas, J.E., & McCormack, A. (1986). Sexual homicide: A motivational model. *Journal of Interpersonal Violence, 1,* 251-272.

Canter, D. (1989). Offender profiling, *The Psychologist, 2,* 12-16.

Canter, D. (1994). *Criminal shadows*. London: Harper Collins.

Canter, D. (1995a). Psychology of offender profiling. In R. Bull & D. Carson (Eds.), *Handbook of psychology in legal contexts* (pp. 343-355). Chichester, UK: John Wiley and Sons.

Canter, D. (1995b). *Criminal shadows*. London: Harper Collins.

Canter, D. (1996). A multivariate model of sexual offence behaviour: Developments in 'Offender Profiling'. In *Psychology in Action* (pp. 189-216). Hantshire, UK: Dartmouth Publishing Company.

Canter, D. (2004). Offender profiling and investigative psychology. *Journal of Investigative Psychology and Offender Profiling, 1,* 1-15.

Canter, D. (2011). Resolving the offender "profiling equations" and the emergence of an investigative psychology. *Current Directions in Psychological Sciences, 20,* 293-320.

Canter, D., Alison, L., Alison, E., & Wentink, N. (2004). The organized/disorganized typology of serial murder. *Psychology, Public Policy and Law, 10,* 293-320.

Canter, D.V., Bennell, C., Alison, L.J., & Reddy, S. (2003). Differentiating sex offences: A behaviorally based thematic classification of stranger rapes. *Behavioral Sciences and the Law, 21,* 157-174.

Canter, D.V., & Fritzon, K. (1998). Differentiating arsonists: A model of fire-setting actions and characteristics. *Legal and Criminological Psychology, 3,* 73-96.

Canter, D.V., & Heritage, R. (1990). A multivariate model of sexual offence behavior: Developments in 'offender profiling'. *The Journal of Forensic Psychiatry, 1,* 185-212.

Canter, D.V., & Ioannou, M. (2004). A multivariate model of stalking behaviours. *Behaviormetrika, 31,* 113-130.

Canter, D.V., & Wentink, N. (2004). An empirical test of Holmes and Holmes's serial murder typology. *Criminal Justice and Behavior, 31,* 489-515.

Canter, D., Heritage, R., Wilson, M., Davies, A., Kirby, S., Holden, R., et al. (1991). *A facet approach to offender profiling: Vol. 1.* Guilford, England: University of Surrey, Psychology Department.

Canter, D., Hughes, D., & Kirby, S. (1998). Paedophilia: pathology, criminality, or both? The development of a multivariate model of offence behaviour in child sexual abuse. *The Journal of Forensic Psychiatry, 9,* 532-555.

Caspi, A. (2000). The child is father of the man: Personality continuities from childhood to adulthood. *Journal of Personalty & Social Psychology, 78,* 158-172.

Caspi, A., & Roberts, B.W. (2001). Personality development across the life course: The argument for change and continuity. *Psychological Inquiry, 12,* 49-66.

Caspi, A., & Silva, P.A. (1995). Temperamental qualities at age 3 predict personality traits in young adulthood: Longitudinal evidence from a birth cohort. *Child Development, 66,* 486-498.

Cattell, R.B. (1943). The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology, 38,* 476-506.

Cattell, R.B. (1945a). The description of personality: Principles and findings in a factor analysis. *American Journal of Psychology, 58,* 69-90.

Cattell, R.B. (1945b). The principal trait clusters for describing personality. *Psychological Bulletin, 42,* 129-161.

Cervone, D. (2005). Personality architecture: Within-person structures and processes. *Annual Review of Psychology, 56,* 432-452.

Chaiken, J.M., & Chaiken, M.R. (1982). *Varieties of criminal behavior: Summary and policy implications*. Santa Monica, CA: Rand Corporation

Chaney, E.F., O'Leary, M.R., & Marlatt, G.A. (1978). Skill training with alcoholics. *Journal of Consulting and Clinical Psychology, 46,* 1092-1104.

Ch aggressors: Situational and situation. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds), *Sexual murderers: A comparative analysis and new perspectives* (pp. 71-86). Chichester, UK: John Wiley & Sons Ltd. (2007). Sexual murd

Chermack, S.T., & Blow, F.C. (2002). Violence among individuals in substance abuse treatment: the role of alcohol and cocaine consumption. *Drug and Alcohol Dependence, 66,* 29–37.

Chermack, S.T., Grogan-Kaylor, A., Perron, B.E., Murray, R.L., De Chavez, P., & Walton, M.A. (2010). Violence among men and women in substance use disorder treatment: A multi-level event-based analysis. *Drug and Alcohol Dependence, 112,* 194-200

Chesire, J.D. (2004). Review, critique, and synthesis of personality theory in motivation to sexually assault. *Aggression and Violent Behaviour, 9,* 633-644.

Clarke, J., & Carter, A. J. (2000). Relapse prevention with sexual murderers. In D. R. Laws, S. M. Hudson & T. Ward (Eds.), *Remaking relapse prevention with sex offenders* (pp. 389-401). London: Sage.

Clarke, R.V., & Felson, M. (1993). *Routine activity and rational choice. Advances in criminological theory.* New Brunswick, NJ: Transaction Books.

Clausen, S. (1998). *Applied correspondence analysis: An introduction.* Thousand Oaks, CA: Sage.

Cohen, J. (1983). The costs of dichotomization. *Applied Psychological Measurement, 7,* 249–253.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112,* 155-159.

Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: A routine activities approach. *American Sociological Review, 44,* 588-608.

Cohen, L.J., Garfalo, R.F., Boucher, R., & Seghorn, T. (1971). The psychology of rapists. *Seminars in Psychiatry, 3,* 307-327.

Cohen, M.L., Seghorn, T., & Calmas, W. (1969). Sociometric study of sex offenders. *Journal of Abnormal Psychology, 74,* 249-255.

Coleman, C., & Norris, C. (2000). *Introducing criminology*. Devon: William Publishing.

Collins, J.J. (1981). *Drinking and crime – Perspectives on the relationship between alcohol consumption and criminal behavior.* New York, NY: Guildford Publications, Inc.

Collins, J.J., & Schlenger, W.E. (1988). Acute and chronic effects of alcohol use on violence. *Journal of Studies on Alcohol, 49,* 516-521.

Collins, P., Johnson, G., Choy, A., Davidson, K., & MacKay, R. (1998). Advances in violent crime analysis and law enforcement: The Canadian Violent Crime Linkage Analysis System. *Journal of Government Information, 25,* 277-284.

Copson, G. (1995). *Coals to Newcastle? Police use of offender profiling*. London: Home Office Police Research Group.

Copson, G., Badcock, R., Boon, J., & Britton, P. (1997). Editorial: Articulating a systematic approach to clinical crime profiling. *Criminal Behaviour and Mental Health, 7,* 13-17.

Cornish, D., & Clarke, R. (1987). Understanding crime displacement: An application of rational choice theory. *Criminology, 25,* 933-948.

Costa, P.T., & McCrae, R.R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders, 4,* 362-371.

Costa, P.T., & McCrae, R.R. (1992). *NEO PI-R Professional manual.* Odessa, FL: Psychological Assessment Resources.

Coucelis, H., Golledge, R., Gale, N., & Tobler, W. (1987). Exploring the anchor point hypothesis of spatial cognition. *Journal of Environmental Psychology, 7,* 99-122.

Crabbé, A., Decoene, S., & Vertommen, H. (2008). Profiling homicide offenders: A review of assumptions and theories. *Aggression and Violent Behavior, 13,* 88-106.

Daffern, M., Ferguson, M., Ogloff, J., Thomson, L., & Howells, K. (2007). Appropriate treatment targets or products of a demanding environment? The relationship between aggression in a forensic psychiatric hospital with aggressive behaviour preceding admission and violent recidivism. *Psychology, Crime & Law, 13,* 431-441.

Dancer, L.S. (1990). Introduction to facet theory and its applications. *Applied Psychology: An International Review, 39,* 365-377.

Davies, A. (1991). The use of DNA profiling and behavioural science in the investigation of sexual offences. *Medicine, Science and Law, 31,* 95-101.

Davies, A. (1992). Rapists' behaviour: A three aspect model as a basis for analysis and the identification of serial crime. *Forensic Science International, 55,* 173-194.

Davies, A. (1999). Criminal personality profiling and crime scene assessment: A contemporary investigative tool to assist law enforcement public safety. *Journal of Contemporary Criminal Justice, 15,* 291-301.

Davies, A., Wittebrood, K., & Jackson, A. (1997). Predicting the criminal antecedents of a stranger rapist from his offence behaviour. *Science & Justice, 37,* 161-170.

Davies, A., Wittebrood, K., & Jackson, J. L. (1998). *Predicting the criminal record of a stranger rapist (Special interest series paper 12).* London: Home Office, Policing and Reducing Crime Unit.

Davis, W.M. (1996). Psychopharmacologic violence associated with cocaine abuse: Kindling of a limbic dyscontrol syndrome? *Progress in Neuro-psychopharmacology & Biological Psychiatry, 20,* 1273–1300.

Denno, D.W. (1986). Victim, offender, and situational characteristics of violent crime. *The Journal of Criminal Law & Criminology, 77,* 1142-1158.

DeRaad, B., Perugini, M., Hrebickova, M., & Szarota, P. (1998). Lingua franca of personality: Taxonomies and structures based on the psycholexical approach. *Journal of Cross-cultural Psychology, 29,* 212-232.

Deu, N., & Edelmann, R.J. (1997). The role of criminal fantasy in predatory and opportunist offending. *Journal of Interpersonal Violence, 12,* 18-29.

Dietz, P.E., Hazelwood, R.R., & Warren, J. (1990). The sexually sadistic criminal and his offenses. *The Bulletin of the American Academy of Psychiatry and the Law, 18,* 163-178.

Digman, J.M., & Takemoto-Chock, N.K. (1981). Factors in the natural language of personality: Reanalysis and comparison of six major studies. *Multivariate Behavioral Research, 16,* 149-170.

Doan, B., & Snook, B. (2008). A failure to find empirical support for the homology assumption in criminal profiling. *Journal of Police and Criminal Psychology, 23,* 61-70.

Douglas, J., Burgess, A., Burgess, A., & Ressler, R. (1992). *Crime classification manual*. Lexington, MA: Lexington Books.

Douglas, J., Ressler, R., Burgess, A. W., & Hartman, C. (1986). Criminal profiling from crime scene analysis. *Behavioral Sciences & the Law, 4,* 401-421.

Douglas, D.A., Harford, T.C., & Rosenstock, I.M. (1994). Alcohol, other drugs, and sexual risk-taking among young adults. *Journal of Substance Abuse, 6,* 87-93.

Dowden, C., Bennell, C., & Bloomfield, S. (2007). Advances in offender profiling: A systematic review of the profiling literature published over the past three decades. *Journal of Police and Criminal Psychology, 22,* 44-56.

Eaton, N., South, S.C., & Krueger, R.F. (2009). The cognitive-affective processing system (CAPS) approach to personality and the concept of personality disorder: Integrating clinical and social-cognitive research. *Journal of Research in Personality, 43,* 208-217.

Efron, B., & Tibshirani, R. (1986). Bootstrap methods for standard errors, confidence intervals, and other measure of statistical accuracy. *Statistical Science, 1,* 54-77.

Egger, S. (1984). A working definition of serial murder and the reduction of linkage blindness. *Journal of Police Science and Administration, 12,* 348-357.

Elliott, R.T. (2010). Examining the relationship between personality characteristics and unethical behaviors resulting in economic crime. *Ethical Human Psychology and Psychiatry, 12,* 269-276.

Everitt, B., Landau, S., & Leese, M. (2001). *Cluster analysis* (fourth edition). London: Hodder Arnold.

Fargo, J.D. (2007). An empirical taxonomy of incarcerated male sexual offenders using finite mixture modelling: Adult victims. In G. Bourgon, R.K. Hanson, J.D. Pozzulo, K.E. Morton Bourgon, C.L. Tanasichuk (eds.) (170-174). Proceedings of the 2007 North American Correctional & Criminal Justice Psychology Conference. Corrections research: User report. Ottawa: Public Safety Canada.

Farrington, D.P., & Loeber, R. (2000). Some benefits of dichotomization in psychiatric and criminological research. *Criminal Behaviour and Mental Health, 10,* 100-122.

FBI. (2008, 30 September 2008). Investigative Programs Critical Incident Response Group. Retrieved 23 October, 2008, from http://www.fbi.gov/hq/isd/cirg/ncavc.htm

Felson, M. (1987). 'Routine activities and crime prevention in the developing metropolis. *Criminology, 25,* 911-931.

Felson, R., & Krohn, M.(1990). Motives for rape. *Journal of Research in Crime and Delinquency, 27,* 222–242.

Felson, R.B., & Steadman, H.J. (1983). Situational factors in disputes leading to criminal violence. *Criminology, 21,* 59-74.

Fendrich, M., Mackesy-Amiti, M.E., Goldstein, P., Spunt, B., & Brownstein, H. (1995). Substance involvement among juvenile murderers: Comparisons with older offenders based on interviews with prison inmates. *The International Journal of the Addictions, 30,* 1363-1382.

Ferguson, C.J., White, D.E., Cherry, S., Lorenz, M., & Bhimani, Z. (2003). Defining and classifying serial murder in the context of perpetrator motivation. *Journal of Criminal Justice, 31,* 287-292.

Field, A. (2009). *Discovering statistics using SPSS* (third edition). Sussex: Sage Publications Ltd.

Fisher, D., & Beech, A.R. (2007). Identification of motivations for sexual murder. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 175-190). Chichester, UK: John Wiley & Sons Ltd.

Fiske, S.T., & Taylor, S. (1991). *Social cognition.* New York: McGraw-Hill.

Forer, B.R. (1949). The fallacy of personal validation: A classroom demonstration of gullibility. *The Journal of Abnormal and Social Psychology. 44*, 118-123.

Francis, B., & Soothill, K. (2000). Does sex offending lead to homicide? *The Journal of Forensic Psychiatry, 11*, 49-61.

Frank, R. Andresen, M.A., & Brantingham, P. (2011). Criminal directionality and the structure of urban form. *Journal of Environmental Psychology, 32,* 37-42.

Frank, R., Dabbaghian, V., Reid, A., Singh, S., Cinnamon, J., & Brantingham, P. (2011). Power of criminal attractors: Modelling the pull of activity nodes. *Journal of Arificial Societies and Social Simulation, 14 (1),* 6. Available electronically from http://jasss.soc.surrey.ac.uk/14/1/6.html

Fritzon, K., Canter, D., & Wilton, Z. (2001). The application of an action system model to destructive behaviour: The examples of arson and terrorism. *Behavioral Sciences & the Law, 19*, 657-690.

Fritzon, K., & Ridgway, J. (2001). Near-death experience: The role of victim reaction in attempted homicide. *Journal of Interpersonal Violence, 16,* 679-696.

Funder, D.C., & Colvin, C.R. (1991) Explorations in behavioural consistency: Properties of person, situations, and behaviours. *Journal of Personality and Social Psychology, 60,* 773-794.

Furr, R.M., & Funder, D.C. (2004). Situational similarity and behavioural consistency: Subjective, objective, variable-centered, and person-centered approaches. *Journal of Research in Personality, 38*, 421-447.

Gebhard, P H., Gagnon, J.H., Pomeroy, W.B., & Christensen, C.V. (1965). *Sex offenders: An analysis of types*. New York: Harper and Row.

Gee, D., & Belofastov, A. (2007). Profiling Sexual Fantasy: Fantasy in Sexual Offending and the Implications for Criminal Profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 49-71). Totowa, NJ: Humana Press Inc.

Gendreau, P., Little, T., & Gobbin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34,* 575-607.

Glenn, N.D. (1980). Values, attitudes, and beliefs. In O.G. Brim, Jr. & J. Kagan (eds). *Constancy and change in human development* (pp. 596-640). Cambridge, MA: Harvard University Press.

Goldstein, P.J. (1985). The drugs/violence nexus: A tripartite conceptual framework. *Journal of Drug Issues, 15,* 493-506.

Goodwill, A. M., & Alison, L. (2007). When is profiling possible? Offence planning and aggression as moderators in predicting offender age from victim age in stranger rape. *Behavioral Sciences & the Law, 25*, 823-840.

Goodwill, A.M., Alison, L., & Humann, M. (2009). Multidimensional scaling and the analysis of sexual offence behaviour: A reply to Sturidsson et al. *Psychology, Crime & Law, 15,* 517-524.

Gratzer, T., & Bradford, J.M.W. (1995). Offender and offense characteristics of sexual sadists: A comparative study. *Journal of Forensic Sciences, 40*, 450-455.

Green, E.J., Booth, C.E., & Biderman, M.D. (1976). Cluster analysis of burglary M/O's. *Journal of Police Science and Administration, 4,* 382-388.

Greenfeld, L. (1997). Sex offences and offenders: An analysis of data on rape and sexual assault. Available electronically at www.crimemagazine.com/sex_crimes.htm.

Groth, A.N. (1977). The adolescent sexual offender and his prey. *International Journal of Offender Therapy and Comparative Criminology, 21,* 249-254.

Groth, A. N., & Birnbaum, H. J. (1979). *Men who rape: The psychology of the offender.* New York: Plenum Press.

Groth, A. N., Burgess, A. W., & Holmstrom, L. L. (1977). Rape: Power, anger, and sexuality. *The American Journal of Psychiatry, 134,* 1239-1243.

Groth, N.A., & Hobson, W.F. (1997). The dynamics of sexual assaults. In L.B. Schlesinger & E. Revitch (Eds.), *Sexual dynamics of anti-social behavior.* (second edition, pp. 158-170). Springfield, IL: Charles C. Thomas.

Grubin, D. (1994). Sexual murder. *British Journal of Psychiatry, 165,* 624-629.

Grubin, D., Kelly, P., & Brunsdon, C. (2001). *Linking serious sexual assault through behavior.* London: Home Office, Research Development and Statistics Directorate.

Gudjonsson, G.H., & Copson, G. (1997). The role of the expert in criminal investigation. In J.L. Jackson & D.A. Bekerain (Eds), *Offender profiling: theory, research and practice* (pp. 61-76). West Sussex, England: John Wiley & Sons.

Guttmann, L. (1968). A general nonmetric technique for finding the smallest coordinate space for a configuration of points. *Psychometrika, 33,* 469-506.

Guttman, R. & Greenbaum, C.W. (1998). Facet theory: Its development and current status. *European Psychologist, 3,* 13-36.

Hackshaw, A. (2008). Small studies: Strengths and limitations. *European Respiratory Journal, 32,* 1141-1143.

Hanson, R. K., & Bussiere, M.T. (1998). Predicting relapse: A metaanalysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66,* 348-362.

Hanson, R.K., & Morton-Bourgon, K. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73,* 1154-1163.

Harry, B., Pierson, T.R, & Kuznetsov, A. (1993). Correlates of sex offender and offense traits by victim age. *Journal of Forensic Sciences, 38,* 1068-1074.

Haukoos, J.S., & Lewis, R.J. (2005). Advanced statistics: Bootstrapping confidence intervals for statistics with “difficult” distributions. *Academic Emergency Medicine, 12,* 360-365.

Hayes, A.F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408-420.

Hazelwood, R.R., & Burgess, A.W. (1987). An introduction to the serial rapist research by the FBI. *FBI Law Enforcement Bulletin, 56,* 16-24.

Hazelwood, R.R., Reboussin, R., & Warren, J.I. (1989). Serial rape: Correlates of increased aggression and the relationship of offender pleasure to victim resistance. *Journal of Interpersonal Violence, 4*, 65–78.

Hazelwood, R., & Warren, J. (2003). Linkage analysis: Modus operandi, ritual and signature in serial sexual crime. *Aggression and Violent Behavior, 8*, 587-598.

Heth, C.D., Cornell, E.H., & Flood, T.L. (2002). Self-ratings of sense of direction and route reversal performance. *Applied Cognitive Psychology, 16*, 309–324.

Hicks, S. J., & Sales, B. D. (2006). *Criminal profiling: Developing an effective science and practice*. Washington, D.C.: American Psychological Association.

Hogan, R. (1991). Personality and personality measurement. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 327–396). Palo Alto, CA: Consulting Psychologists Press

Hogan, J., & Ones, D.S. (1997). Conscientiousness and integrity at work. In R. Hogan, J.Johnson, & S. Briggs (Eds), *Handbook of personality psychology* (pp. 849-870). San Diego, CA: Academic Press.

Holmes, R. M., & De Burger, J. (1988). *Serial murder*. London: Sage Publications.

Holmes, R.M., & Holmes, S.T. (1998). *Serial murder* (2nd ed.). Thousand Oaks, CA: Sage.

Homant, R. J., & Kennedy, D. B. (1998). Psychological aspects of crime scene profiling: Validity research. *Criminal Justice and Behavior, 25*, 319-343.

Home Office (2004). *Offender management caseload statistics 2003. England and Wales December 2004 (Table 8.2).* www.homeoffice.gov.uk/rds/hosb2004.html.

House, J. C. (1997). Towards a practical application of offender profiling: The RNC's criminal suspect prioritization system. In J. L. Jackson & D. A. Bekerain (Eds.),

Offender profiling: Theory, research and practice (pp. 177-190). Chichester, England: Wiley.

Howlett, J., Hanfland, K., & Ressler R. (1986). Violent Criminal Apprehension Program – VICAP: A progress report. *FBI Law Enforcement Bulletin, 55,* 14-22.

Hyman, H.H. (1955). *Survey design and analysis: Principles, case, and procedures.* Glencoe, IL: Free Press.

Jackson, J. L., van de Eshof, P., & de Kleuver, E. E. (1997). A research approach to offender profiling. In J. L. Jackson & D. A. Bekerain (Eds.), *Offender profiling: theory practice and research* (pp. 107-132). Chichester: Wiley & Sons Ltd.

Jackson, J. L., van Koppen, P. J., & Herbrink, J. C. M. (1993). *Does the service meet the needs? An evaluation of consumer satisfaction with specific profile analysis and investigative advice as offered by the Scientific Research Advisory Unit of the National Criminal Intelligence Division (CRI)*. The Netherlands: Netherlands Institute for the Study of Criminality and Law Enforcement (NISCALE).

Jankowski, D. (2002). *A beginner's guide to the MCMI-III*. Washington, DC: American Psychological Association.

Jaworska, N., & Chupetlovska-Anastasova, A. (2009). A review of multidimensional scaling (MDS) and its utility in various psychological domains. *Tutorials in Quantitative Methods for Psychology, 5*, 1-10.

John, O.P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In. L.A. Pervin, & O.P. John (Eds.), *Handbook of personality: Theory, and research (2nd edition)* (pp.102-138). New York: Guildford Press.

Jones, L. (2004). Offence paralleling behaviour (OPB) as a framework for assessment and interventions with offenders. In A. Needs & G. Towl (Eds.), *Applying psychology to forensic practice* (pp. 34-63). BPS Blackwell: British Psychological Society

Jones, L. (2010). History of the offence paralleling behaviour construct and related concepts. In M. Daffern, L. Jones & J. Shine (Eds.), *Offence paralleling behaviour: A case*

formulation approach to offender assessment and intervention (pp.3 -24). Chichester, UK: Wiley & Sons Ltd.

Kafka, M.P. (1997). Hypersexual desire in males: An operational definition and clinical implications for males with paraphilias and paraphilia-related disorders. *Archives of Sexual Behavior, 26*, 505-526.

Kenny, D. T., Keogh, T., & Seidler, K. (2001). Predictors of recidivism in Australian juvenile sex offenders: Implications for treatment. *Sexual Abuse: A Journal of Research and Treatment, 13*, 131-148.

Keppel, R. D., & Walter, R. (1999). Profiling killers: A revised classification model for understanding sexual murder. *International Journal of Offender Therapy and Comparative Criminology, 43*, 417-437.

Kleck, G., & Sayles, S. (1990). Rape and resistance. *Social Problems, 37*, 149-162.

Kilpatrick, D.G., Best, C.L., Veronen, L.J., Amick, A.E., Villeponteaux, L.A., & Ruff, G.A. (1985). Mental health correlates of criminal victimization: A random community survey. *Journal of Consulting and Clinical Psychology, 53,* 866-873.

Knight, R.A. (1999). Validation of a typology for rapists. *Journal of Interpersonal Violence, 14*, 303-330.

Knight, R.A., & Prentky, R.A. (1987). The developmental antecedents and adult adaptations of rapist subtypes. *Criminal Justice and Behavior, 14*, 403-426.

Knight, R. A., Warren, J. I., Reboussin, R., & Soley, B. (1998). Predicting rapist type from crime-scene variables. *Criminal Justice and Behavior, 25*, 46-80.

Kocsis, R.N. (2003). Criminal psychological profiling: Validities and abilities. *International Journal of Offender Therapy and Comparative Criminology, 47*, 126-144.

Kocsis, R. N. (2004). Psychological profiling of serial arson offenses: An assessment of skills and accuracy. *Criminal Justice and Behavior, 31*, 341-361.

Kocsis, R.N., Cooksey, R.W., & Irwin, H.J. (2002). Psychological profiling of offender characteristics from crime behaviors in serial rape offences. *International Journal of Offender Therapy and Comparative Criminology, 46*, 144-169.

Kocsis, R.N., & Irwin, H.J. (1997). An analysis of spatial patterns in serial rape, arson and burglary: The utility of Circle Theory of environmental range to psychological profiling. *Psychiatry,Psychology and Law, 4,* 195–206.

Kocsis, R. N., Irwin, H. J., & Hayes, A. F. (1998). Organised and disorganised criminal behaviour syndromes in arsonists: A validation study of a psychological profiling concept. Australian and New Zealand Journal of Psychiatry, Psychology, and Law, 5, *117-131.*

Kocsis, R. N., Irwin, H. J., Hayes, A. F., & Nunn, R. (2000). Expertise in psychological profiling: A comparative assessment. *Journal of Interpersonal Violence, 15,* 311-331.

Kocsis, R. N., & Palermo, G. B. (2007). Contemporary problems in criminal profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research, and practice* (pp. 327-345). Totowa, New Jersey: Humana Press.

Kraemer, G.W., Lord, W.D., & Heilburn, K. (2004). Comparing single and serial homicide offenses. *Behavioral Sciences and the Law, 22,* 325-343.

Kuznetsov, A., Pierson, T. R., & Harry, B. (1992). Victim age as a basis for profiling sex offenders. *Federal Probation, 56,* 34–38.

Labuschange, G. (2006). The use of linkage analysis as evidence in the conviction of the Newcastle serial murderer, South Africa. *Journal of Investigative Psychology and Offender Profiling, 3,* 183-191.

Landis, J.R., & Koch, G.G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33,* 159-174

Langevin, R. (2003). A study of the psychosexual characteristics of sex killers: Can we identify them before it is too late? *International Journal of Offender Therapy and Comparative Criminology, 47,* 366-382.

Langevin, R., Ben-Aron, M., Wright, P., Marchese, P., & Handy, L. (1988). The sex killer. *Annals of Sex Research, 1,* 263-301.

Langevin, R., Paitich, D., & Russon, A.E. (1985). Are rapists sexually anomalous, aggressive, or both? In R. Langevin (Ed.), *Erotic preference, gender identity, and aggression in men: New research studies* (pp. 17-38). Hillsdale, NJ: Erlbaum.

Langton, C.M., & Marshall, W.L. (2001). Cognition in rapists: Theoretical patterns by typological breakdown. *Aggression and Violent Behavior, 6,* 499-518.

Lazarsfeld, P.G. (1955). Interpretation of statistical relations as a research operation. In P.F. Lazarsfeld, & M. Rosenberg (eds), *The Language of Social Research: A Reader in the Methodology of Social Research* (p. 115-125). Glencoe, IL: Free Press.

Lingoes, J. (1973). *The Guttman-Lingoes nonmetric program series*. Ann Arbor, MI: Mathesis.

Lingoes, J. (1979). *Geometric representation of relational data.* Ann Arbor, MI: Mathesis Press.

Luckenbill, D.F. (1981). Generating compliance: The case of robbery. *Urban Life, 10,* 25-46.

Ludwig, J.A., & Reynolds, J.F. (1988). *Statistical ecology: a primer of methods and computing*. New York, NY: Wiley Press.

Lundrigan, S., & Canter, D. (2001). A multivariate analysis of serial murderers' disposal site location choice. *Journal of Environmental Psychology, 21,* 423-432.

MacCulloch, M.J., Snowden, P.R., Wood, P.J., & Mills, H.E. (1983). Sadistic fantasy, sadistic behaviour and offending. *The British Journal of Psychiatry, 143,* 20-29.

MacKinnon, D.P., Fairchild, A.J., & Fritz, M.S. (2007). Mediation analysis. *Annual Review of Psychology, 58,* 593-614.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7,* 83-104.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39,* 99-128.

Malamuth, N. (1986). Predictors of naturalistic sexual aggression. *Journal of Personality and Social Psychology, 50,* 953-962.

Mann, R., & Beech, A.R. (2003). Cognitive distortions, schemas and implicit theories. In T. Ward, D.R. Laws, & S.M. Hudson (Eds.), *Theoretical issues and controversies in sexual deviance* (pp. 135-153). London: Sage.

Mann, R. E., & Hollin, C. R. (2007). Sexual offenders' explanations for their offending. *Journal of Sexual Aggression, 13*, 3-9.

Markson, L., Woodhams, J., & Bond, J.W. (2010). Linking serial residential burglary: comparing the utility of modus operandi behaviours, geographical proximity, and temporal proximity. *Journal of Investigative Psychology and Offender Profiling, 7,* 91-107.

Marlatt, G.A. (1982). Relapse prevention: A self-control program for the treatment of addictive behaviours. In R.B. Stuart (Ed.), *Adherence, compliance, and generalization in behavioural medicine* (pp. 329-378). New York: Brunner/Mazel.

Marlatt, G.A., & Gordon, J. (1980). Determinants of relapse: Implications for the maintenance of change. In P.O. Davidson & S.M. Davidson (Eds.), *Behavioral medicine: Changing health lifestyles* (pp. 410-452). New York: Brunner/Mazel.

Marlatt, G.A., & Gordon, J.R. (Eds.). (1985). *Relapse prevention*. New York: Guilford Press.

Marshall, W.L. (1989). Intimacy, loneliness and sexual offenders. *Behavioral Research in Therapy, 27,* 491-503.

Marshall, W.L., & Kennedy, P. (2003). Sexual sadism in sexual offenders: An elusive diagnosis. *Aggression and Violent Behavior, 8*, 1-22.

Matthews, H. (1995). Culture, environmental experience and environmental awareness: Making sense of young Kenyan children's views of place. *The Geographical Journal, 3*, 285–296.

McCabe, M.P., & Wauchope, M. (2005). Behavioural characteristics of rapists. *Journal of Sexual Aggression, 11,* 235-247.

McCann, K., & Lussier, P. (2008). Antisociality, sexual deviance, and sexual reoffending in juvenile sex offenders: A meta-analytical investigation. *Youth Violence and Juvenile Justice, 6,* 363-385.

McDermott, M.J., & Hindelang, M.J. (1981). *Juvenile criminal behavior: An analysis of rates and victim characteristics.* National Institute for Juvenile Justice and Delinquency Prevention. Washington, D.C.: Government Printing Office.

Meaney, R. (2004). Commuters and marauders: An examination of the spatial behaviour of serial criminals. *Journal of Investigative Psychology and Offender Profiling, 1,* 121-137.

Meloy, J.R. (2000). The nature and dynamics of sexual homicide: An integrative review. *Aggression and Behavior, 5,* 1-22.

Mendoza-Denton, R., Shoda, Y., Ayduk, O., & Mischel, W. (1999). Applying cognitive-affective processing system (CAPS) theory to cultural differences in social behaviour. In W.J. Lonner & D.L. Dinnel (Eds.). *Merging past, present, and future in cross-cultural psychology: Selected papers from the 14th international congress of the International Association for Cross-Cultural Psychology* (pp. 205-217). Lisse, The Netherlands: Swets & Zeithinger.

Mendoza-Denton, R., & Mischel, W. (2007). Integrating system approaches to culture and personality: The cultural cognitive-affective processing system.In S. Kitayama & D. Cohen (Eds.), *Handbook of Cultural Psychology* (pp. 175-195). New York, NY: The Guildford Press.

Mercado, R.G., & Paez, A. (2009). Determinants of distance travelled with a focus on the elderly: A multilevel analysis in Hamilton CMA, Canada. *Journal of Transport Geography, 17,* 65-76.

Mian, M., Wehrspann, W., Klajner-Diamond, H., LeBaron, D., & Winder, C. (1986). Review of 125 children six years of age and under who were sexually abused. *Child Abuse and Neglect, 10,* 223-229.

Mihailides, S., Devilly, G.J., & Ward, T. (2004). Implicit cognitive distortions and sexual offending. *Sexual Abuse: A Journal of Research and Treatment, 16,* 333-350.

Milligan, G.W., & Cooper, M.C. (1987). Methodology review: Clustering methods. *Applied Psychological Measurement, 11,* 329-354.

Millon, T. (1994). *Millon Clinical Multiaxial Inventory-III manual.* Minneapolis MN: National Computer Systems.

Milsom, J., Beech, A.R, & Webster, S.D. (2003). Emotional loneliness in sexual murderers: A qualitative analysis. *Sexual Abuse: A Journal of Research and Treatment, 15,* 285-296.

Mischel, W. (1968). *Personality and assessment*. New York: Wiley.

Mischel, W., Mendoza-Denton, R., & Hong, Y. (2009). Towards an integrative CAPS approach to racial/ethnic relations. *Journal of Personality, 77,* 1365-1380.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualising situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review, 102,* 246-268.

Mischel, W., & Shoda, Y. (1998). Reconciling processing dynamics and personality dispositions. *Annual Review of Psychology, 49,* 229-258.

Mischel, W., & Shoda, Y. (2008). Toward a unified theory of personality: Integrating dispositions and processing dynamics with the cognitive-affective processing system. In O.P John, R.W. Robins, & L.A. Pervin (Eds). *Handbook of personality: Theory and research* (pg 208-241). New York, NY: Guildford Press.

Mischel, W., Shoda, Y., & Mendoza-Denton, R. (2002). Situation-behavior profiles as a locus of consistency in personality. *Current Directions in Psychological Science, 11,* 50-54.

Mokros, A., & Alison, L. J. (2002). Is offender profiling possible? Testing the predicted homology of crime scene actions and background characteristics in a sample of rapists. *Legal and Criminological Psychology, 7,* 25-43.

Mooney, C.Z., & Duval, R.D. (1993). *Bootstrapping: A nonparametric approach to statistical inference*. Newbury Park, CA: Sage Publications, Inc.

Morency, C., Paez, A., Roorda, M.J., Mercado, R., & Farber, S. (2011). Distance travelled in three Canadian cities: Spatial analysis from the perspective of vulnerable population segments. *Journal of Transport Geography, 19,* 39-50.

Mrazek, P.J., Lynch, M.A., & Bentovim, A. (1983). Sexual abuse of children in the United Kingdom. *Child Abuse and Neglect, 7,* 147-153.

Muller, D. A. (2000). Criminal profiling: Real science or just wishful thinking? *Homicide Studies, 4,* 234-264.

Murphy, C.M., Winters, J., O'Farrell, T.J., Fals-Stewart, W., Murphy, M. (2005). Alcohol consumption and intimate partner violence by alcoholic men: Comparing violent and nonviolent conflicts. *Psychology of Addictive Behaviors, 19,* 35–42.

Myers, R.H. (1990). *Classical and modern regression with applications* (second edition). Boston: Duxbury/Thompson Learning.

Myers, T. (1986). An analysis of context and alcohol consumption in a group of criminal events. *Alcohol and Alcoholism, 21,* 389-395

Myers, W.C., Husted, D.S., Safarik, M.E., & O'Toole, M.E. (2006). The motivation behind serial sexual homicide: Is it sex, power, and control, or anger? *Journal of Forensic Sciences, 51,* 900-907.

Nicole, A., & Proulx, J. (2007). Sexual murderers and sexual aggressors: Developmental paths and criminal history. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 29-50). Chichester, UK: John Wiley & Sons Ltd.

Norman, W.T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology, 66,* 574-583.

Oldfield, D. (1997). What help do the police need with their enquiries? In J.L. Jackson & D.A. Berekian (Eds.), *Offender profiling: Theory, research and practice* (pp. 93-106). Chichester, England: Wiley.

Oliver, C.J., Beech, A.R., Fisher, D., & Beckett, R.C. (2007). A comparison of rapists and sexual murderers on demographic and selected psychometric measures. *International Journal of Offender Therapy and Comparative Criminology, 51,* 298-312.

Owen, R. (1843). *Lectures on the comparative anatomy and physiology of the invertebrate animals*. London, England: Longman, Brown, Green, Longmans.

Owen, R. (2007). *On the Nature of Limbs: A discourse,* edited by R. Amundson (with a preface by B.K. Hall and introductory essays by R. Amundson, K. Padian, M.P. Windsor and J. Coggon). Chicago: University of Chicago Press.

Palermo, G.B. (2003). Editorial: A more comprehensive approach to sexual offenders. *International Journal of Offender Therapy and Comparative Criminology, 47,* 3-5.

Palermo, G.B, & Kocsis, R.N. (2005). *Offender profiling: An introduction to the sociopsychological analysis of violent crime.* Springfield, Ill: Charles C. Thomas Publisher Ltd.

Palmer, C.T. (1988). Twelve reasons why rape is not sexually motivated: A sceptical examination. *The Journal of Sex Research, 25,* 512-530.

Palmer, C.T., DiBari, D.N., & Wright, S.A. (1999). Is it sex yet? Theoretical and practical implications of the debate over rapists' motives. *Jurimetrics, 39,* 271-282.

Pardue, A., & Arrigo, B.A. (2008). Power, anger, and sadistic rapists. *International Journal of Offender Therapy and Comparative Criminology, 52,* 378-400.

Pernanen, K. (1991). *Alcohol in human violence.* New York, NY: Guildford Press.

Personality. (n.d.). In *Merriam-Webster's online dictionary*. Retrieved from http://www.merriam-webster.com/dictionary/personality

Pervin, L. A. (2002). *Current controversies and issues in personality* (Third ed.): John Wiley & Sons Inc.

Pinizzott, A. J. (1984). Forensic psychology: Criminal personality profiling. *Journal of Police Science & Administration, 12,* 32-40.

Pinizzott, A. J., & Finkel, N. J. (1990). Criminal personality profiling: An outcome and process study. *Law and Human Behavior, 14*, 215-233.

Pithers, W.D. (1990). Relapse prevention with sexual aggressors: A method for maintaining therapeutic gain and enhancing external supervision. In. W.L. Marshall, D.R. Laws, & H.E. Barbaree (Eds.), *Handbook of sexual assault: Issues theories and treatment of the offender* (pp. 343-361). New York: Plenum.

Pithers, W.D., Marques, J.K., Gibat, C.C., & Marlatt, G.A. (1983). Relapse prevention with sexual aggressive: A self-control model of treatment and maintenance of change. In J.G. Greer & I.R. Stuart (Eds.), *The sexual aggressor: Current perspectives on treatment* (pp. 214-234). New York: Van Nostrand Reinhold.

Polaschek, D.L.L., & Gannon, T.A. (2004). The implicit theories of rapists: What convicted offenders tell us. *Sexual Abuse: A Journal of Research and Treatment, 16,* 299-314.

Polaschek, D., Hudson, S., Ward, T., & Siegert, R. (2001). Rapists' offense processes: A preliminary descriptive model. *Journal of Interpersonal Violence, 16,* 523-544.

Polaschek, D., & Ward, T. (2002). The implicit theories of potential rapists: What our questionnaires tell us. *Aggression and Violent Behavior, 7,* 385-406.

Polaschek, D., Ward, T., & Hudson, S. (1997). Rape and rapists: Theory and treatment. *Clinical Psychology Review, 17,* 117-144.

Pollock, N.L., & Hashmall, J.M. (1991). The excuses of child molesters. *Behavioral Sciences and the Law, 9,* 53-59.

Porter, L., & Alison, L.J. (2004). Behavioural coherence in violent group activity: An interpersonal model of sexually violent gang behaviour. *Aggressive Behavior, 30,* 449-468.

Porter, S., Woodworth, M., Earle, J., Drugge, J., & Boer, D. (2003). Characteristics of sexual homicides committed by psychopathic and nonpsychopathic offenders. *Law and Human Behavior, 27,* 459-470.

Preacher, K.J., & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40,* 879-891.

Prentky, R., & Burgess, A. (2000). *Forensic management of sexual offenders.* New York: Kluwer Academic/Plenum Publishers.

Prentky, R.A., Burgess, A.W., & Carter, D.L. (1986). Victim responses by rapist type: An empirical and clinical analysis. *Journal of Interpersonal Violence, 1,* 73-98.

Proulx, J., Aubut, J., Perron, L., & McKibben, A. (1994). Troubles de la personnalite et viol: Implications theoriques et cliniques [Personality disorders and violence: Theoretical and clinical implications]. *Criminologie, 27,* 33-53.

Proulx, J., & Beauregard, E. (2002). Profiles of the offending process of nonserial sexual murderers. *International Journal of Offender Therapy and Comparative Criminology, 46*, 386-399.

Proulx, J., & Beauregard, E. (2008). Decision making during the offending process: An assessment among subtypes of sexual aggressors of women. In T.Beech, L.A. Craig, & K.D. Browne (Eds). *Assessment and treatment of sex offenders: A handbook* (pp. 181-197). Chichester, UK: Wiley.

Proulx, J., & Beauregard, E. (2009a). Decision making during the offending process: An assessment among subtypes of sexual aggressors of women. In A.R. Beech, L.A. Craig, & K.D. Browne (Eds.), *Assessment and treatment of sex offenders: A handbook* (pp. 181-197). Chichester, UK: John Wiley & Sons Ltd.

Proulx, J., & Beauregard, E. (2009b). *Pathways in the offending process of extrafamilial sexual aggressors of women*. Paper presented at the 28th Annual Association for the Treatment of Sexual Abusers Research and Treatment Conference, Dallas, Texas, USA. October 2009.

Proulx, J., Beauregard, E., Cusson, M., & Nicole, A. (2007) *Sexual murderers: A comparative analysis and new perspectives*. Chichester, UK: Wiley.

Proulx, J., Beauregard, E., & Nicole, A. (2002). *Developmental, personality and situational factors in rapists and sexual murderers of women*. Paper presented at the Association for the Treatment of Sexual Abusers, Montreal, Quebec, Canada. October 2002.

Proulx, J., Cusson, M., & Beauregard, E. (2007). Sexual murder: Definitions, epidemiology and theories. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual murderers: A comparative analysis and new perspectives* (pp. 9-28). Chichester, UK: John Wiley & Sons Ltd.

Proulx, J., Perreault, C., & Ouimet, M. (1999). Pathways in the offending process of extrafamilial sexual child molesters. *Sexual Abuse: A Journal of Research and Treatment, 11,* 117-129.

Proulx, J., St-Yves, M., Guay, J.P., & Ouimet, M. (1999). Les aggresseurs sexuels de femmes: Scenarios delictuels et troubles de la personnalite [Sexual aggressors of women: Offence scenarios and personality disorders]. In J. Proulx, M. Cusson, & M. Ouimet (Eds.), *Les violences criminelles* (pp. 157-185). Sainte-Foy, Quebec, Canada: Les Presses de l'Universite Laval.

Pyle, G. (1974). *The spatial dynamic of crime* (Research Paper No. 159), Department of Geography, University of Chicago, Chicago.

Quinn, G. & Keough, M. (2002). *Experimental design and data analysis for biologists*. Cambridge, UK: Cambridge University Press

Quinsey, V.L., & Chaplin, T.C. (1982). Penile responses to nonsexual violence among rapists. *Criminal Justics and Behavior, 9,* 372-381.

Quinsey, V.L., & Upfold, D. (1985). Rape completion and victim injury as a function of female resistance strategy. *Canadian Journal of Behavioural Science, 17,* 40-50

Rainbow, L. (2007). The role of behavioural science in criminal investigations. *Forensic Update, 88*, 44-48.

Rainbow, L., & Gregory, A. (2009). Behavioural investigative advice: A contemporary view. *The Journal of Homicide and Major Incident Investigation, 5,* 71-82.

Raine, A., Reynolds, C., Venables, P.H., Mednick, S.A., & Farrington, D.P. (1998). Fearlessness, stimulation-seekingm and large body size at age 3 years as early predispositions to childhood aggression at age 11 years. *Archives of General Psychiatry, 55*, 745-751.

Rajaratnam, S. M. W., Redman, J. R., & Lenne, M. G. (2000). Intoxication and criminal behaviour. *Psychiatry, Psychology and Law*, *7*, 59–69.

Reiser, M. (1982). *Police psychology: Collected papers*. Los Angeles: LEHI Publishing Company

Royal Canadian Mounted Police. (n.d.). *RCMP Violent Crime Linkage System (ViCLAS).* Retrieved from http://www.rcmp-grc.gc.ca/viclas-salvac/index-eng.htm

Resignato, A.J. (2000). Violent crime: A function of drug use or drug enforcement?. *Applied Economics, **32,*** 681–688.

Ressler, R., Burgess, A., & Douglas, J. (1988). *Sexual homicide: Patterns and motives*. New York: The Free Press.

Ressler, R.K., & Douglas, J.E. (1985). Crime scene and profile characteristics of organized and disorganized murderers.*FBI Law Enforcement Bulletin, 58,* 18-25.

Rice, M.E., Harris, G.T., & Quinsey, V.L. (1990). A follow-up of rapists assessed in a maximum-security psychiatric facility. *Journal of Interpersonal Violence, 5,* 435-448.

Roberts, B.W., & Del Vecchio, W.F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin, 132,* 1-25.

Robertiello, G., & Terry, K.J. (2007). Can we profile sex offenders? A review of sex offenders typologies. *Aggression and Violent Behaviour, 12,* 508-518.

Roberts, B.W., & Caspi, A. (2001). Personality development and the person-situation debate: It's déjà vu all over again. *Psychological Inquiry, 12,* 104-109.

Romesburg, H.C. (2004). *Cluster analysis for researchers*. Morrisville, NC: Lulu Press.

Roslund, B., & Larson, C.A. (1979). Crimes of violence and alcohol abuse in Sweden. *Substance Use & Misuse, 14,* 1103-1115.

Roth, N. (1952). Factors in the motivation of sexual offenders. *The Journal of Criminal Law, Criminology, and Police Science, 42*(5), 631-635.

Salfati, G.C., & Bateman, A.L. (2005). Serial homicide: An investigation of behavioural consistency. *Journal of Investigative Psychology and Offender Profiling, 2,* 121-144.

Salfati, G., & Taylor, P. (2006). Differentiating sexual violence: A comparison of sexual homicide and rape. *Psychology, Crime and Law, 12,* 107-125.

Sampson, R. J. (2001). Sociology of delinquency. In N. J. Smelser & P. B. Baltes (Eds.), *International encyclopaedia of the social & behavioural sciences* (pp. 3380-3384). Elsevier Science Ltd.

Santtila, P., Fritzon, K., & Tamelander, A. L. (2005). Linking arson incidents on the basis of crime scene behavior. *Journal of Police and Criminal Psychology, 19,* 1–16.

Santtila, P., Hakkanen, H., Canter, D., & Elfgren, T. (2003). Classifying homicide offenders and predicting their characteristics from crime scene behaviour. *Scandinavian Journal of Psychology, 44,* 107-118.

Santtila, P., Laukkanen, M., Zappala, A., & Bosco, D. (2008). Distance travelled and offence characteristics in homicide, rape, and robbery against business. *Legal and Criminological Psychology, 13,*345-356.

Santtila, P., Pakkanen, T., Zappala, A., Bosco, D., Valkama, M., & Mokros, A. (2008). Behavioural crime linking in serial homicide. *Psychology, Crime and Law, 14,* 245-265.

Sarangi, S., & Youngs, D. (2006). Spatial Patterns of Indian Serial Burglars with Relevance to Geographical Profiling. *Journal of Investigative Psychology and Offender Profiling, 3,* 105-115.

Saucier, G., & Goldberg, L.R. (1996). Evidence for the Big Five in analyses of familiar English personality adjectives. *European Journal of Personality, 10,* 61-77.

Scott, J. (2000). Rational choice theory. In G. Browning, A. Halcli, & F. Webster, *Understanding contemporary society: Theories of the Present* (pp. 126-138). London, UK: Sage Publications.

Scully, D., & Marolla, J. (1985). Riding the bull at Gilley's: Convicted rapists describe the rewards of rape. *Social Problems, 32,* 251-263.

Shackleford, T.K. (2002). Are young women the special targets of rape-murder? *Journal of Aggressive Behavior, 28,* 224-232.

Sheldon, K., & Howitt, D. (2008). Sexual fantasy in paedophile offenders: Can any model explain satisfactorily new findings from a study of internet and contact sexual offenders? *Legal and Criminological Psychology, 13,* 137-158.

Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology, 67,* 674–687.

Shye, S., Elizur, D., & Hoffman, M. (1994). *Introduction to facet theory*. London: Sage Publications.

Siegel, J.M., Sorenson, S.B., Golding, J.M., Burnam, M.A., & Stein, J.A. (1989). Resistance to sexual assault: Who resists and what happens? *American Journal of Public Health, 79*, 27-31.

Simon, L.M.J., Sales, B., Kaszniak, A., & Kahn, M. (1992). Characteristics of child molesters: Implications for the fixated-regressed dichotomy. *Journal of Interpersonal Violence, 7*, 211-225.

Silva, J.A., Leong, G.B., & Ferrari, M.M. (2004). A neuropsychiatric developmental model of serial homicide behavior. *Behavioral Sciences and the Law, 22*, 787-799.

Snook, B., Cullen, R.M., Bennell, C., Taylor, P.J., & Gendreau, P. (2008). The criminal profiling illusion: What's behind the smoke and mirrors? *Criminal Justice and Behavior, 35*, 1257-1276.

Snook, B., Eastwood, J., Gendreau, P., Goggin, C., & Cullen, R. M. (2007). Taking stock of criminal profiling: A narrative review and meta-analysis. *Criminal Justice and Behavior, 34*, 437-453.

Snook, B., Luther, K., House, J.C., Bennell, C., & Taylor, P. (2012). The Violent Crime Linkage Analysis System: A test of interrater reliability. *Criminal Justice and Behavior, 39*, 607-619.

Snyder, C.R., Jae Shenkel, R., & Lowery, C.R. (1977). Acceptance of personality interpretations: The "Barnum Effect" and beyond. *Journal of Consulting and Clinical Psychology, 45*,104-114.

Sobel, M.E. (1982). Asymptotic confidence internals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological Methodology* (pp. 290-312). Washington, DC: American Sociological Association.

Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in covariance structure models. In N. Tuma (Ed.), *Sociological Methodology* (pp. 159-186). Washington, DC: American Sociological Association.

Sorochinski, M., & Salfati, G.C. (2010). The consistency of inconsistency in serial homicide: Patterns of behavioural change across series. *Journal of Investigative Psychology and Offender Profiling, 7*, 109-136.

Stermac, L., & Hall, K. (1989). Escalation in sexual offending: Fact or fiction? *Annals of Sex Research, 2*, 153-162.

Steyvers, M. (2002). Multidimensional scaling. In *Encyclopedia of Cognitive Science*. London, UK: Nature Publishing Group.

Stone, C.A., & Sobel, M.E. (1990). The robustness of estimates of total indirect effects in covariance structure models estimated by maximum likelihood. *Psychometrika, 55,* 337-52.

Sturidsson, K., Langstrom, N., Grann, M., Sjostedt, G., Asgard, U., & Aghede, E. M. (2006). Using multidimensional scaling for the analysis of sexual offence behaviour: A replication and some cautionary notes. *Psychology, Crime, and Law, 12*, 221-230.

Tabachnick, B.G., & Fidell, L.S. (1996). *Using Multivariate Statistics (*3rd ed.). New York: Harper Collins College Publishers Heights, MA: Allyn and Bacon

Tabachnick, B.G., & Fidell, L.S. (2001). *Using multivariate statistics (*4th ed.). Needham

Tan, P.N., Steinback, M., & Kumar, V. (2005). *Introduction to data mining*. Minnesota, MN: Addison-Wesley.

Tapert, S.F., Aarons, G.A., Sedlar, G.R., & Brown, S.A. (2001). Adolescent substance use and sexual risk-taking behaviour. *Journal of Adolescent Health, 28*, 181-189.

Taylor, P.J., Donald, I.J., Jacques, K., & Conchie, S.M. (2010). Jaccard's heel: Radex models of criminal behaviour are rarely falsifiable when derived using Jaccard coefficient. *Legal and Criminological Psychology, 15*, 1-18.

Ter Beek, M., Van Den Eshof, P., & Mali, B. (2010). Statistical modelling in the investigation of stranger rape. *Journal of Investigative Psychology and Offender Profiling, 7*, 31-47.

Tinklenberg, J.R., & Ochberg, F.M. (1981). Patterns of adolescent violence: A California sample. In D.A. Hamber, M.B. Trudeau (Eds). *Bio-behavioral Aspects of Aggression* (pp. 121-140). New York, NY: Allan R. Liss Inc.

Tonkin, M., Bond, J.W., & Woodhams, J. (2009). Fashion conscious burglars? Testing the principles of offender profiling with footwear impressions recovered at domestic burglaries. *Psychology, Crime & Law, 15,* 327-345.

Turco, R. (1990). Psychological profiling. *International Journal of Offender Therapy and Comparative Criminology, 34,* 147-154.

Ullman, S.E. (1998). Does offender violence escalate when rape victims fight back? *Journal of Interpersonal Violence, 13,* 179-192.

Ullman, S.E., Karabatos, G., & Koss, M.P. (1999a). Alcohol and sexual assault in a national sample of college women. *Journal of Interpersonal Violence, 14,* 603-625.

Ullman, S. E., Karabatsos, G., & Koss, M. P. (1999b). Alcohol and sexual aggression in a national sample of college men. *Psychology of Women Quarterly, 23,* 673–689.

Ullman, S.E., & Knight, R.A. (1993). A multivariate model for predicting rape and physical injury outcomes during sexual assaults. *Journal of consulting and Clinical Psychology, 59,* 724-731.

Ullman, S.E., & Siegel, J.M. (1993). Victim-offender relationship and sexual assault. *Violence and Victims, 8,* 121-134.

Van Mechelen, I., & De Raad, B. (1999). Editorial: Personality and situations. *European Journal of Personality, 13,* 333-336.

Walker, A. (1985). *The Care Gap: How Can Local Authorities meet the Needs of the Elderly?* London: Local Government Information Unit.

Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior, 5,* 491-507.

Ward, T., & Hudson, S.M. (1998). A model of the relapse process in sexual offenders. *Journal of Interpersonal Violence, 13,* 700-725.

Ward, T., Hudson, S. M., Johnston, L., & Marshall, W. L. (1997). Cognitive distortions in sex offenders: An integrative review. *Clinical Psychology Review, 17,* 479-507.

Ward, T., Hudson, S.M., & Keenan, T. (1998). A self-regulation model of the sexual offense process. *Sexual Abuse: A Journal of Research and Treatment, 10,* 141-157.

Ward, T., & Keenan, T. (1999). Child molesters' implicit theories. *Journal of Interpersonal Violence, 14,* 821-838.

Ward, T., Polaschek, D. L. L., & Beech, T. (2006). *Theories of sexual offending*. Chichester: John Wiley and Sons, Ltd.

Warren, J.I., Hazelwood, R.R., &Dietz, P.E. (1996). The sexually sadistic serial killer. *Journal of Forensic Sciences, 41,* 970-974.

Warren, J., Reboussin, R., Hazelwood, R., Gibbs, N., Trumbetta, S., & Cummings, A. (1999). Crime scene analysis and the escalation of violence in serial rape. *Forensic Science International, 100,* 37-56.

Warren, J., Reboussin, R., Hazelwood, R.R., Cummings, A., Gibbs, N., & Trumbetta, S. (1998). Crime scene and distance correlates of serial rape. *Journal of Quantitative Criminology, 14,* 35-59.

Weiner, M.D., Sussman, S., Sun, P., & Dent, C. (2005). Explaining the link between violence perpetration, victimization and drug use. *Addictive Behaviors, 30,* 1261-1266.

Wilson, A., & Alison, L. (2004). Questioning sequences in Canadian police interviews: Constructing and confirming the course of events?. *Psychology, Crime and Law, 10,* 137-154.

Wilson, M., Daly, M., & Scheib, J. (1997). Femicide: An evolutionary psychological perspective. In A.P. Gowaty (Ed.), *Feminism and evolutionary biology* (pp. 431-465). New York, NY: Chapman and Hall.

Wolfgang, M.E., & Strohm, R.B. (1956). The relationship between alcohol and criminal homicide. *Quarterly Journal of Studies on Alcohol, 17,* 411-425.

Woodhams, J. (2012). Offender profiling and crime linkage. In G. Davies, & A. Beech (eds), *Forensic psychology: Crime, justice, law, interventions (2nd edition)* (pp.171-188). Chichester, UK: John Wiley & Sons Ltd.

Woodhams, J., Bull, R., & Hollin, C. R. (2007). Case linkage: Identifying crimes committed by the same offender. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 117-133). Totowa, NJ: Humana Press Inc.

Woodhams, J. & Grant, T. (2006). Developing a categorization system for rapists' speech. *Psychology, Crime and Law, 12*, 245-260.

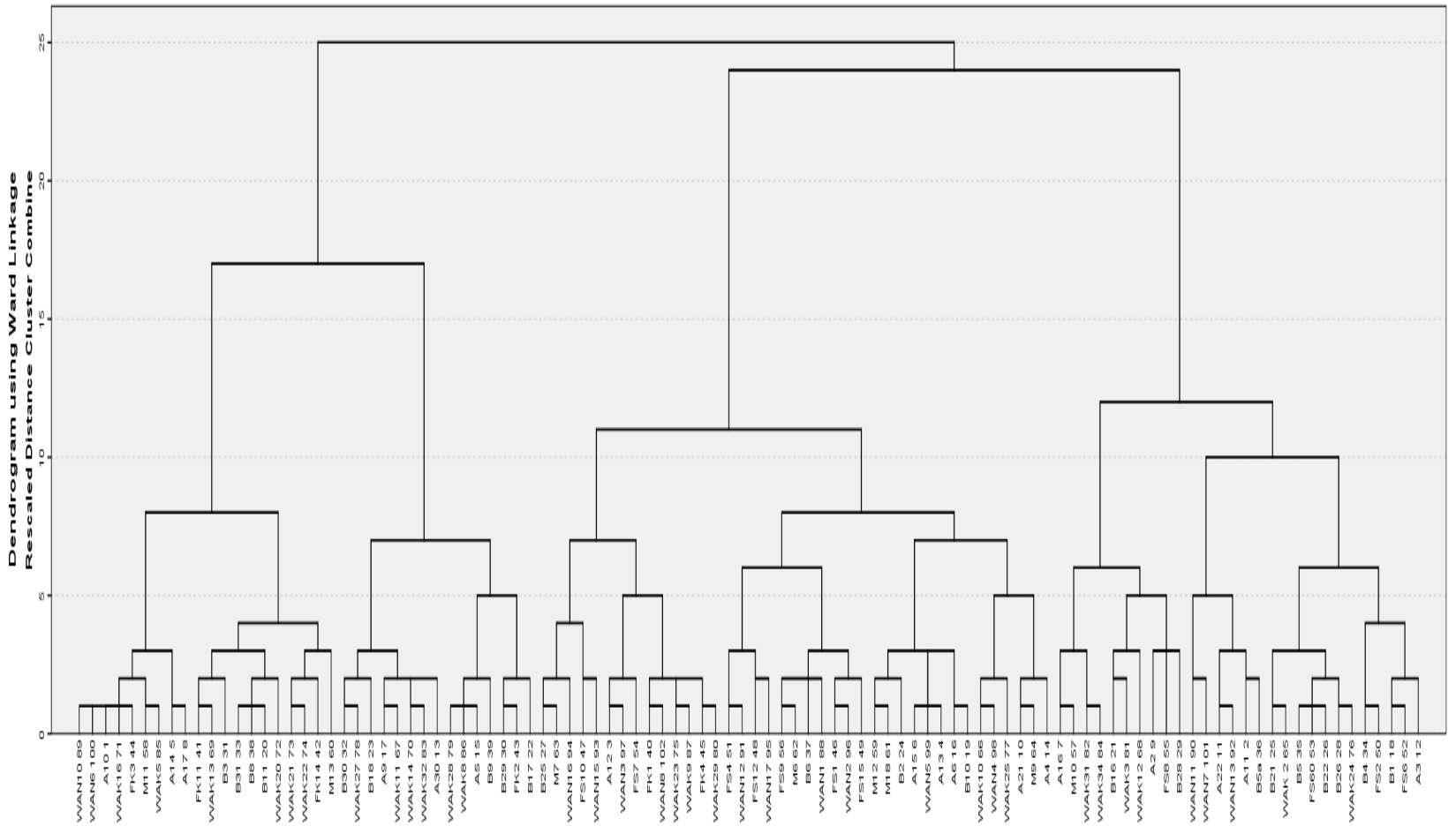
Woodhams, J., Hollin, C.R., & Bull, R. (2007). The psychology of linking crimes: A review of the evidence. *Legal and Criminological Psychology, 12*, 233-249.

Woodhams, J., & Toye, K. (2007). An empirical test of the assumptions of case linkage and offender profiling with serial commercial robberies. *Psychology, Public Policy, and Law, 13*, 59-85.

Youngs, D. (2004). Personality correlates of offence style. *Journal of Investigative Psychology and Offender Profiling, 1*, 99-119.

Zolondek, S., Abel, G., Northey, W., & Jordan, A. (2001). The self-reported behaviors of juvenile sexual offenders. *Journal of Interpersonal Violence, 16*, 73-85.

Appendix A: Chapter 3 Dendogram Example (Chapter 4 Full Cluster Analysis without MCMI data)



Cluster Membership of the 102 Sexual Aggressors by Individual Offenders

Appendix B: Functional Analysis

Question

Appendix III

Functional Analysis Interview (FAI)

FUNCTIONAL ANALYSIS INTERVIEW

SURNAME .....

FORNAME .....

NATIONAL / PRISON NUMBER (*eg: DT2784*) .....

ESTABLISHMENT (*eg. WWB*) .....

DATE OF BIRTH (*dd/mm/yy*) .....

RESEARCH IDENTITY NUMBER (*eg. 0022*) .....

SOTP NUMBER .....

(Treatment centre number / year / case number = eg. 04/97/0022)

INTERVIEWER'S SURNAME .....

INTERVIEW DATE (*dd/mm/yy* .....

GROUP NUMBER .....

SOTPBAT.VER2

FUNCTIONAL ANALYSIS INTERVIEW

If the offender has been convicted of more than one sexual offence, please refer to the *most serious offence* throughout this questionnaire

1. DISTAL ANTECEDENTS *What was happening in your life just before the offences started?* *1a) where were you living? (Specify)* *1b) employment (Specify)* *1c) hoe did you spend your free time? (Specify)*	 ....
2. MAJOR LIFE EVENTS *2a) Were there any major upsetting or unpleasant events in your life at that time? (Please circle any that apply)*	Bereavement 1) YES 0) NO Redundancy 1) YES 0) NO Relationship Break-Up 1) YES 0) NO Marriage 1) YES 0) NO Birth of a Child 1) YES 0) NO Moving House 1) YES 0) NO Other 1) YES 0) NO If other specify .....
3. RELATIONSHIPS: General *3a) Did you have a problem making close friends?* *3b) Did you have a problem making superficial acquaintances?* *3c) Did you have a problem keeping friends?* *3d) How satisfied were you with your friendships generally? (Please circle the one that applies)*	 1) YES 0) NO 1) YES 0) NO 1) YES 0) NO 1) Didn't have any friends 2) Not Satisfied

1. SEXUAL PARTNERS	
4a) Were you involved in any sexual relationship at the time? ***If yes go to 4b if not go to 4i.***	1) YES 0) NO
4b) IF YES *for how long has that relationship been ongoing?*	days ……..(……..) months……(……..) years……...(……..)
4c) Can you describe your partner?	Age…….. Gender: 1)M 2)F
4d) How satisfied were you with the sexual part of the relationship?	Satisfied with Relationship 1) YES 0) NO Satisfied with Frequency 1) YES 0) NO Satisfied with Variety 1) YES 0) NO
4e) Did you or your partner ever have a sexual affair?	*you* 1) YES 0) NO For more Frequent Sex 1) YES 0) NO For more Varied Sex 1) YES 0) NO *partner* 1) YES 0) NO For more Frequent Sex 1) YES 0) NO For more Varied Sex 1) YES 0) NO
4f) Did you or your partner ever use prostitutes?	*you* 1) YES 0) NO For more Frequent Sex 1) YES 0) NO For more Varied Sex 1) YES 0) NO *partner* 1) YES 0) NO For more Frequent Sex 1) YES 0) NO For more Varied Sex 1) YES 0) NO
4g) Did you or your partner have any sexual problems?	1) YES 0) NO
4h) If yes, please circle ***YOU***	Low Libido 1) YES 0) NO Problems Getting an Erection 1) YES 0) NO Problems maintaining an Erection 1) YES 0) NO Premature Ejaculation 1) YES 0) NO Doubts about Penis Size 1) YES 0) NO Other 1) YES 0) NO If other please specify ……..
PARTNER	Low Libido 1) YES 0) NO Problems Getting an Erection 1) YES 0) NO Problems maintaining an Erection 1) YES 0) NO Premature Ejaculation 1) YES 0) NO Doubts about Penis Size 1) YES 0) NO Other 1) YES 0) NO If other please specify ……..
4L) How did you feel about the relationship?	Specify …….. ……

4. SEXUAL PARTNERS	
4i) IF NOT *when was your last sexual partner?*	(dd/mm/yy) ……../……../……..
4j) Why did the last relationship fail?	Specify ……..
4k) How long had it lasted?	days ……(……..) months…….(……..) years……(……..)
4m) Can you describe your partner?	Age…… Gender: 1)M 2)F
4n) Did you or your partner suffer from sexual problems?	1) YES 0) NO
4o) If yes what were they? ***YOU***	Low Lidido 1) YES 0) NO Problems Getting an Erection 1) YES 0) NO Problems maintaining an Erection 1) YES 0) NO Premature Ejaculation 1) YES 0) NO Doubts about Penis Size 1) YES 0) NO Other 1) YES 0) NO If other please specify ……..
PARTNER	Low Lidido 1) YES 0) NO Problems Getting an Erection 1) YES 0) NO Problems maintaining an Erection 1) YES 0) NO Premature Ejaculation 1) YES 0) NO Doubts about Penis Size 1) YES 0) NO Other 1) YES 0) NO If other please specify ……..
5. GENERAL RELATIONSHIPS (SEXUAL)	
5a) What were your general pattern of sexual relationships? Please circle any that apply.	1) YES 0) NO……Male partners 1) YES 0) NO……Female partners 1) YES 0) NO……Bisexual 1) YES 0) NO……Similar Age 1) YES 0) NO……Older Partners 1) YES 0) NO……Younger Adult Partner 1) YES 0) NO……Adolescent Partners

6. PRIOR TO THE OFFENCE	
6a) Did you feel in control of your life at that time?	1) YES 0) NO
6b) If not, why not? (list factors)	…… …… ……
6c) How would you describe the way you felt at the time just before the offence. *(Please circle any that apply)*	Happy……1) YES 0) NO Upset……1) YES 0) NO Anxious……1) YES 0) NO Detached……1) YES 0) NO Humiliated……1) YES 0) NO Confused……1) YES 0) NO Afraid……1) YES 0) NO Angry……1) YES 0) NO Depressed……1) YES 0) NO Other……1) YES 0) NO if other please specify ……
6d) Did you feel under pressure for any reason before the offence?	1) YES 0) NO
6e) If yes please circle what was making you feel under pressure.	Relationships……1) YES 0) NO Family……1) YES 0) NO Work……1) YES 0) NO Financial……1) YES 0) NO Other Offending……1) YES 0) NO Major Life Events….1) YES 0) NO Other……1) YES 0) NO if other please specify ……
7. ALCOHOL	
7a) How much alcohol did you consume on avera *(UNITS/WEEK)?* *(1 unit = ½ pint of beer/ 1 glass of wine)*	……
7b) Did you consider it a problem?	1) YES 0) NO
7c) Did your alcohol use cause you any problems *the following areas?* *(Please circle)*	Family Relationships…1) YES 0) NO Friendships……1) YES 0) NO Money……1) YES 0) NO Offending-Sexual……1) YES 0) NO Offending-Non sexual..1) YES 0) NO

8. DRUGS	
8a) Were you using drugs at the time?	1) YES 0) NO
8b) If yes, which drugs and what was your usage?	
CANNABIS	0)No 1)Occasional 2)Regular 3)Heavy
AMPHETAMINES (e.g. Speed)	0)No 1)Occasional 2)Regular 3)Heavy
BARBITURATES (e.g. Sleeping tables)	0)No 1)Occasional 2)Regular 3)Heavy
TRANQUILIZERS	0)No 1)Occasional 2)Regular 3)Heavy
HALLUCINOGENS (e.g.0 LSD)	0)No 1)Occasional 2)Regular 3)Heavy
COCAINE	0)No 1)Occasional 2)Regular 3)Heavy
OPIATES (e.g. Heroin)	0)No 1)Occasional 2)Regular 3)Heavy
ECSTACY	0)No 1)Occasional 2)Regular 3)Heavy
STIMULANTS (e.g. Glue)	
8c) Did you consider it a problem?	1) YES 0) NO
8d) Did your drug use cause you any problems in the following areas? *(Please circle)*	Family Relationships…1) YES 0) NO Friendships……1) YES 0) NO Money……1) YES 0) NO Offending-Sexual……1) YES 0) NO Offending-Non sexual..1) YES 0) NO Employment……1) YES 0) NO Health……1) YES 0) NO Mood……1) YES 0) NO
9. FANTASY	
9a) Prior to committing this offence had you thought or fantasised about this sort of thing?	1) YES 0) NO
9b) If yes, how long prior to committing the offence?	minutes……(……) hours……(……) days……(……) months……(……) years……(……)
9c) How often did you have these types of fantasies?	(no. times/week)……
9d) Expand on why	…… …… ……

10. TRIGGER	
10a) How long before offending did you first have the thought of committing this offence/ acting out on that fantasy?	minutes……..(……) hours……..(……) days……..(……) months……..(……) years……..(……)
10b) Was the trigger a particular incident or a build up of things? Please circle and specify.	1)PARTICULAR INCIDENT 2)BUILD-UP Specify trigger……
11. PLANNING	
11a) How long before the offence did you start planning it?	minutes……..(……) hours……..(……) days……..(……) months……..(……) years……..(……)
11b) Did you fantasize/masturbate about offending?	1) YES 0) NO
11c) Did you plan who the offence would be against?	1) YES 0) NO If yes, specify ……
11d) Did you plan where it would happen?	1) YES 0) NO If yes, specify ……
11e) Did you plan when it would happen?	1) YES 0) NO If yes, specify ……
12. PRACTICAL PREPARATIONS	
12a) What preparations did you make foe this offence?	Weapon 1) YES 0) NO Disguise 1) YES 0) NO Gloves 1) YES 0) NO Condom 1) YES 0) NO Isolating victim 1) YES 0) NO Intoxicating victim 1) YES 0) NO Restraining equipment 1) YES 0) NO

13. VICTIM	
13a) Who was the victim of the most serious offence?	1)Stranger 2)Casual Pick Up 3)Prostitute 4)Slight Acquaintance 5) Acquaintance 6)Family Member 7)Business Associate 8)Other if other please specify……
13b) Why did you pick that victim? (Was there anything about the victim that made you choose him/her?)	1)Picked at Random 2)Felt Attracted to him/her 3)Represented a Group 4)Picked to get at somebody else 5)Other if other please specify……
13c) How old was the victim?	AGE (yy)……..
13d) How old did you think they were?	PERCEIVED AGE (yy)……
13e) Did you find the victim attractive?	1) YES 0) NO
13f) Before you started the assault what were your thoughts about the victim? (Specify)	…… …… ……
14. PERSONAL PREPARATION	
14a) Were you feeling sexually aroused when you met the victim?	1) YES 0) NO
14b) Had you taken any drink or drugs just before offending?	1) YES 0) NO
14c) If yes, which? Please circle	1)Drugs

15. GROOMING VICTIM INTO SITUATION	
15A) Where did you meet the victim of the most serious assault? (Please circle one)	1)Victims Home 2)Own Home 3)Joint Home 4)Out of Doors 5)Neutral Building 6)Public Transport 7)Car
15b) What was the victim expecting to happen? (Specify)	Specify…… …… ……
15c) What were you expecting to happen? (Specify)	Specify…… …… ……
15d) Where did the actual assault occur? (Please circle one)	1)Victims Home 2)Own Home 3)Joint Home 4)Out of Doors 5)Neutral Building 6)Public Transport 7)Car
15e) How did you get the victim to the location of the assault?	1)Victim Lured 2)Victim Forced 3)Already at Location
15f) Why did you pick that place/time?	Specify place…… Specify time……
15g) How long were you with the victim before the assault took place?	minutes……..(……) hours……(……) days……..(……..) months……..(……) years……(……)

An Exploration of How Sexual Murderers and Rapists Differentiate

16. OFFENCE	
16a) Did you commit the offence alone?	1) YES 0) NO
16aa) If no, please circle one of the following	1)With Single Male 2)Male Group 3)Female Group 4)With Single Female 5)Mixed Group
16b) How did you overcome the victim's resistance/get the victim to co-operate? (Please circle any that apply)	Payment 1) YES 0) NO Deception 1) YES 0) NO Verbal Threats 1) YES 0) NO Threat of Weapon 1) YES 0) NO Force, no Serious Injury 1) YES 0) NO Force with Serious Injury 1) YES 0) NO Victim Consented 1) YES 0) NO Victim Seduced Perpetrator 1) YES 0) NO
16c)Did you have a weapon with you?	1) YES 0) NO
16cc)If yes, please circle usage.	Present but not used 1) YES 0) NO Mentioned but not used 1) YES 0) NO Used 1) YES 0) NO
16ccc) What type of weapon was used? (Please circle any that apply)	Knife 1) YES 0) NO Gun 1) YES 0) NO Weapon came to Hand 1) YES 0) NO Other 1) YES 0) NO If other please specify weapon……
16d) Did you or the victim remove any clothing?	1) YES 0) NO
16dd) If yes, please circle any that apply.	Perpetrator Undressed Self 1) YES 0) NO Perpetrator Undressed Victim 1) YES 0) NO Victim Undressed Self 1) YES 0) NO Victim Undressed Perpetrator 1) YES 0) NO

16. OFFENCE	
16e) Was the victim incapacitated / restrained in any way?	1) YES 0) NO
16ee) If yes, with what? (Please circle any that apply)	Tied Up 1) YES 0) NO Gagged 1) YES 0) NO Blindfolded 1) YES 0) NO Drugged 1) YES 0) NO Unconscious 1) YES 0) NO
16f) What was the significance of this? (Please circle)	1)Practical 2)Sadistic 3)Power 4)Other If other please specify ……
16h) Did you do anything or get the victim to do anything to get you sexually aroused?	1) YES 0) NO
If yes, specify.	Specify…… …… ……
16i)Did you have an erection before the assault began?	1) YES 0) NO
16ii) If no, did you do anything to get an erection? Please circle any that apply.	Nothing 1) YES 0) NO Masturbated Self 1) YES 0) NO Victim Masturbated Perpetrator 1) YES 0) NO Fetish Act 1) YES 0) NO Could not get an Erection 1) YES 0) NO
16j) Did you want to sexually arouse your victim?	1) YES 0) NO
16k) If yes what did you do to get the victim sexually aroused? (Please circle)	Nothing 1) YES 0) NO Already Aroused 1) YES 0) NO Fondling Body 1) YES 0) NO Fondling Genitals 1) YES 0) NO Masturbating 1) YES 0) NO Victim Got Aroused 1) YES 0) NO During Assault 1) YES 0) NO Other 1) YES 0) NO

An Exploration of How Sexual Murderers and Rapists Differentiate

16. OFFENCE	
16l) During the actual offence what did you do to the victim and or make the victim do? (Please circle any that apply)	Touching Body 1) YES 0) NO Perpetrator Masturbates Victim 1) YES 0) NO Victim masturbated Perpetrator 1) YES 0) NO Penetrate/touch *vagina* with -Penis 1) YES 0) NO -Fingers 1) YES 0) NO -Object 1)YES 0) NO Penetrate/touch *anus* -Penis 1) YES 0) NO -Fingers 1) YES 0) NO -Object 1)YES 0) NO Perform *oral sex* -Perpetrator on Victim 1) YES 0) NO -Victim on Perpetrator 1) YES 0) NO Urinate / Defecate 1) YES 0) NO Inflict Pain 1) YES 0) NO Ties Up 1) YES 0) NO Other 1) YES 0) NO of other acts were done please specify …… ……
16m) ***Recap on what the offender has just said*** *"During this assault this is what you did……" Would you normally do these things to a consenting partner?*	1) YES 0) NO
16n) Explore and specify any significant differences.	Specify…… …… …… …… …… …… …… ……

16. OFFENCE	
16o) Did you say anything to the victim during the assault?	1) YES 0) NO
16oo) If yes, please circle what was said	Questions 1) YES 0) NO Instructions 1) YES 0) NO Insults 1) YES 0) NO Threats 1) YES 0) NO Compliments 1) YES 0) NO Apologies 1) YES 0) NO Other 1) YES 0) NO If other things were said please specify ....
16p) In what tone of voice were the things said? Please circle any that apply.	Threatening 1) YES 0) NO Angry 1) YES 0) NO Controlled 1) YES 0) NO Reassuring 1) YES 0) NO Other 1) YES 0) NO If other specify what tone of voice .....
16q) What were you thinking about during the assault (Please circle any that apply)	Yourself 1) YES 0) NO The victim 1) YES 0) NO Others 1) YES 0) NO Unrelated Issues 1) YES 0) NO Other 1) YES 0) NO If other things please specify what ....
16r) What was the victim doing during the assault? (Please circle)	Crying / Pleading 1) YES 0) NO Compliant / Going along with it 1) YES 0) NO Humouring 1) YES 0) NO Resisting / Complaining 1) YES 0) NO Trying to talk perpetrator out of it 1) YES 0) NO Verbally Hostile 1) YES 0) NO Physically Hostile 1) YES 0) NO Other 1) YES 0) NO If doing other things please specify ....
16s) How did you think the victim felt during the assault? (Please circle)	Elated 1) YES 0) NO Aroused 1) YES 0) NO Confused 1) YES 0) NO Detached 1) YES 0) NO Excited 1) YES 0) NO Angry 1) YES 0) NO Anxious 1) YES 0) NO Frightened 1) YES 0) NO Other 1) YES 0) NO If the victim felt other things please specify ....

An Exploration of How Sexual Murderers and Rapists Differentiate

16. OFFENCE	
16t) What were you feeling during the assault? (Please circle)	Elated 1) YES 0) NO Aroused 1) YES 0) NO Confused 1) YES 0) NO Detached 1) YES 0) NO Excited 1) YES 0) NO Angry 1) YES 0) NO Anxious 1) YES 0) NO Frightened 1) YES 0) NO In Control 1) YES 0) NO Other 1) YES 0) NO If you were feeling something else please specify.....
16u) Did your mood change at all during the course of the assault?	1) YES 0) NO
16v) Did you ejaculate at any time?	1) YES 0) NO
16vv) If yes, please circle when.	During the Assault 1) YES 0) NO Masturbated Self after Assault 1) YES 0) NO Victim Masturbated Perpetrator after assault 1) YES 0) NO At another time 1) YES 0) NO if at another time specify when ....
16w) If not, please specify why not.	Specify ....
16x) How long did the assault take from start to finish?	( ) Minutes ( ) Hours ( ) Days

17. IMMEDIATE POST OFFENCE REACTION	
17a) Immediately after the offence how did you feel <u>physically</u>? Please circle	1)Tired 2)Sick 3)Other if other please specify .....
17b) How did you feel emotionally?	Frustrated 1) YES 0) NO Anxious / Afraid 1) YES 0) NO Guilty / Remorseful 1) YES 0) NO Excited 1) YES 0) NO Detached 1) YES 0) NO Humiliated 1) YES 0) NO Relieved 1) YES 0) NO Elated 1) YES 0) NO Other 1) YES 0) NO of other please specify .....
17c) How did you behave towards the victim immediately after the assault? (Please circle)	Apologetic 1) YES 0) NO Wish to meet again 1) YES 0) NO Wish to prolong 1) YES 0) NO Try to cover tracks 1) YES 0) NO Other 1) YES 0) NO If other please specify .....
17d) Did you try to reduce the risk of getting caught?	1) YES 0) NO
17e) If yes, how did you reduce the risk	Killed Victim 1) YES 0) NO Tied victim up 1) YES 0) NO Removed Fingerprints 1) YES 0) NO Removed Semen By - Wiping 1) YES 0) NO - Washing 1) YES 0) NO - Condom 1) YES 0) NO - Fellatio 1) YES 0) NO Used threats 1) YES 0) NO Instructions to count etc. 1) YES 0) NO Other ways 1) YES 0) NO if other please specify .....
17f) Did you steal anything from the victim?	1) YES 0) NO
17g) If yes, please indicate when you stole?	1)Victim told, theft Intended 2)After Thought

17. IMMEDIATE POST OFFENCE REACTION	
17i) How long were you with the victim after the assault had finished?	( ) MINUTES ( ) HOURS ( ) DAYS
17j) What were you thinking immediately after the offence? (Please circle)	Yourself 1) YES 0) NO The victim 1) YES 0) NO Others 1) YES 0) NO Unrelated Issues 1) YES 0) NO Other things 1) YES 0) NO if other please specify .....
17k) What did you do after the offence?	1)Run Away 1) YES 0) NO 2)Carry on as normal 1) YES 0) NO
18)GENERAL POST OFFENCE REACTION	
18a)Did you find the offence enjoyable?	1) YES 0) NO
18b) Why – Expand on your answer	....
18c) How did you feel? (Please circle any that apply)	Anxious / Afraid 1) YES 0) NO Guilt / Remorse 1) YES 0) NO Excited 1) YES 0) NO Detached 1) YES 0) NO Other 1) YES 0) NO If felt another way please specify .....
18d) After the assault did you ever fantasize about the offence.	1) YES 0) NO
18e) If yes, how often did you masturbate to these fantasies? (No. of times/week)	.....

18. GENERAL POST OFFENCE REACTION	
18f) Did the offence affect your relationships?	1) YES 0) NO
18h) with the victim? *If yes please specify how.*	1) YES 0) NO ....
18i) with your partner? *If yes please specify how.*	1) YES 0) NO ....
18j) with others? *If yes please specify how.*	1) YES 0) NO ....
18k) Did you discuss the offence with anybody else? *If yes, who?*	1) YES 0) NO ....
18l) Do you think the offence affected the victim?	1) YES 0) NO
18m) If yes (Please circle)	1)Harmed but not seriously 2)Seriously harmed 3)Has not considered
18n) Do you consider the victim to be any one of the following? (Please circle)	1)None 2)Promiscuous 3)Seductive 4)Hostile/Vindictive

Appendix C: Chapter 4 Comparisons Tables

Table B1

Offender, Lifestyle, Victim, Pre-crime and Modus Operandi characteristics

		Total[a] (%)	Sexual Murderers (%)	Rapists (%)	X^2	*df*	Phi
Offender and General Lifestyle Characteristics:							
Ethnicity	White	77.5	92.1	68.8	7.45**	1	0.27
	Other	22.5	2.9	19.6	8.34*	3	0.29
	African Caribbean	14.7	7.9	18.8			
	Asian	4.9	0.0	7.8			
	Other	2.9	0.0	4.7			
Where offender was living	Lived alone	19.6	21.1	18.8	0.08	1	0.03
	Other	80.4	78.9	81.3			
	Parent(s)	21.6	28.9	17.2	7.96	8	0.28
	Lived Alone	19.6	21.1	18.8			
	Wife/girlfriend	18.6	21.0	17.2			
	Other/Not known	40.3	29.0	46.9			
Employment status	Unemployed	39.2	39.5	39.1	0.00	1	0.97
	Employed/student	60.8	60.5	60.1			
Major life event	Yes	84.3	81.6	85.9	0.34	1	0.06
	No	15.7	18.4	14.1			
	Inter-relational difficulties	10.8	21.1	4.7	6.64*	1	0.26
	Relationship break up	47.1	52.6	43.8			
	House move	31.4	23.7	35.9			

Relationship and Sexual Lifestyle Characteristics:							
In Relationship at time of offence	Yes	65.7	52.6	73.4	4.58*	1	0.21
	No	34.3	47.4	26.6			
Relationship length	Less than a year	56.9	71.1	48.4	4.97*	1	0.22
	More than a year	43.1	28.9	51.6			
Gender of current partner	Male	34.3	44.7	28.1	2.92	1	0.17
	Female	65.7	55.3	71.9			
Dissatisfaction with current relationship	Yes	55.9	42.1	64.1	4.66*	1	0.21
	No	44.1	57.9	35.9			
Previous sexual partners	Use of prostitutes	8.8	7.9	9.4	0.07	1	0.03
	Male	71.6	63.2	76.6	2.11	1	0.14
	Female	28.4	36.8	23.4			
Sexual relationships	A few long term relationships	61.8	47.4	70.3	5.32*	1	0.23
	Many short term relationships	40.2	36.8	42.2	0.28	1	0.05
	Few short term relationships	42.2	47.4	39.1	0.68	1	0.08
Friendship characteristics	Difficulty making close friends	37.3	50.0	29.7	4.21*	1	0.20
	Problem keeping friends	24.8	31.6	20.6	1.52	1	0.12
Childhood Victimisation:							
Sexual Abuse as Child	Yes	29.4	8.8	20.6	6.68*	2	0.26
	No	17.6	2.9	14.7			
	Unknown	52.9	25.5	27.5			
Perpetrator of Sexual Abuse[b]	Parent	23.1	60.0	14.3	4.75	1	0.43
	Other	76.9	40.0	85.7			

	Parent	23.1	60.0	14.3	6.04	4	0.48
	Family/Friend/Acquaintance	65.3	20.0	76.2			
	Stranger	11.5	20.0	9.5			
Form of Sexual Abuse[c]	Shown Pornography	17.6	33.3	14.3	6.68	3	0.63
	Witnessed Sex	5.9	33.3	0.0			
	Assault/masturbation/oral sex	41.2	0.0	50.0			
	Buggary/intercourse	35.3	33.3	35.7			
Physically Abuse as Child	Yes	34.3	6.9	27.5	0.26	1	0.08
	No	10.8	2.9	7.8			
	Unknown	52.9	27.5	27.5			
Perpetrator of Physical Abuse[d]	Biological Parent	31.4	42.9	28.6	0.71	2	0.14
	Step Parent	2.9	0.0	3.6			
	Unknown	65.7	57.1	67.9			
Form of Physical Abuse[e]	Smacked/hit	17.1	0.0	21.4	6.04	4	0.42
	Hit object	28.6	42.9	25.0			
	Punched/kicked	17.1	28.6	14.3			
	Extreme acts	22.9	0.0	28.6			
	Not specified	14.3	28.6	10.7			
Previous Offence History:							
Sexual	Yes	38.2	28.9	43.8	2.21	1	0.15
	No	61.8	71.1	56.3			
Violent	Yes	42.2	39.5	43.8	0.18	1	0.04
	No	57.8	60.5	56.3			
Other	Yes	65.7	63.2	67.2	0.17	1	0.04
	No	34.3	36.8	32.8			

Any Previous Offence	Yes	76.5	76.3	76.6	0.00	1	0.00
	No	23.5	23.7	23.4			
Pre-Crime Factors							
Pressure	Relationship	45.1	57.9	37.5	4.01*	1	0.20
	Family	33.3	52.6	21.9	10.15**	1	0.31
	Work	30.4	31.6	29.7	0.04	1	0.02
Affect just prior to offence	Happy/content	22.5	21.1	23.4	0.08	1	0.03
	Upset	52.0	50.0	53.1	0.09	1	0.03
	Anxious	69.6	73.7	67.2	0.48	1	0.07
	Humiliated	32.4	44.7	25.0	4.24*	1	0.20
	Angry	62.7	71.1	57.8	1.79	1	0.13
Substance use at time of offence	Drugs	38.2	28.9	43.8	2.21	1	0.15
	Cocaine	14.7	2.6	21.9	7.04**	1	0.26
	Cannabis	35.3	26.3	40.6	2.14	1	0.15
	Amphetamines	20.6	15.8	23.4	0.85	1	0.09
Felt in control of life just prior to offence	Yes	27.5	23.7	29.7	0.43	1	0.07
	No	72.5	76.3	70.3			
Fantasised about offence within 48hrs of offence	Yes	51.0	34.2	60.9	6.82**	1	0.26
	No	49.0	65.8	39.1			
Victim Characteristics:							
Relationship to offender	Stranger	55.9	47.4	60.9	1.78	1	0.13
	Known	44.1	52.6	39.1			
	Stranger	50.0	47.4	51.6	8.66*	3	0.29

	Prostitutes	5.9	0.0	9.4			
	Current/past partner	15.7	10.5	18.8			
	Acquaintance/friend	28.4	42.1	20.3			
Victim behaviour during offence	Physically hostile	17.6	15.8	18.8	0.14	1	0.04
	Verbally hostile	15.7	10.5	18.8	1.22	1	0.11
	Talking offender out of offence	36.3	15.8	48.4	10.99**	1	0.33
	Crying/pleading	30.4	28.9	31.3	0.06	1	0.02
	Being compliant	51	31.6	62.5	9.12**	1	0.30
Modus Operandi:							
Planned offence	Yes	44.1	28.9	53.1	5.65*	1	0.24
	No	55.9	71.1	46.9			
Planned who to offend against	Yes	16.7	5.3	23.4	5.67*	1	0.24
	No	83.3	94.7	76.6			
Plan where offence would happen	Yes	14.7	7.9	18.8	2.24	1	0.15
	No	85.3	92.1	81.3			
Plan when offence would happen	Yes	14.7	2.6	21.9	7.04**	1	0.26
	No	85.3	97.4	78.1			
Preparation	Weapon brought with offender	24.5	28.9	21.9	0.65	1	0.08
	Disguise	4.9	5.3	4.7	0.02	1	0.01
	Gloves	9.8	15.8	6.3	2.45	1	0.16
	Condom	3.9	0.0	6.3	2.47	1	0.16
Coercion used to overcome victim resistance	**Verbal threats**	**37.3**	**13.2**	**86.8**	**15.04*** **	**1**	**0.38**
	Threat with weapon	24.5	13.2	31.3	4.22*	1	0.20
	Force, no serious injury	**36.6**	**5.3**	**55.6**	**25.83*** **	**1**	**0.51**

	Force, serious injury	**35.3**	**60.5**	**20.3**	**16.88*** **	**1**	**-0.41**
Weapon	Brought with	31.4	28.9	32.8	0.17	1	0.04
	Found at scene	9.8	23.7	1.6	13.20**	1	0.36
Victim Incapacitated	Restrained	39.2	52.6	31.3	4.57*	1	0.21
	Unconscious	**9.8**	**23.7**	**1.6**	**13.20*** **	**1**	**0.36**
	Physically held	15.7	13.2	17.2	0.29	1	0.05
Touch/penetrate vagina	**Penis**	**63.7**	**34.2**	**81.3**	**22.82*** **	**1**	**0.47**
	Finger	35.3	31.6	37.5	0.37	1	0.06
	Foreign object	7.8	10.5	6.3	0.60	1	0.08
Touch/penetrate anus	Penis	11.8	7.9	14.1	0.87	1	0.09
Inflict Pain	Yes	30.4	36.8	26.6	1.19	1	0.11
	No	69.6	63.2	73.4			
Strangulation of victim	Yes	4.9	10.5	1.6	4.11	1	0.20
	No	95.1	89.5	98.4			

*<0.05; **<0.01; ***<0.001

a. Unless otherwise noted N=102

b. N=26

c. N=17

d. N=34

e. N=35

Note: After correcting for Type I error, only p values < 0.001 are significant. These are highlighted in bold.

Table B2

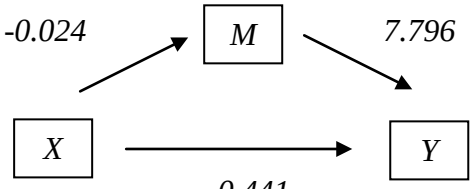
Age Comparisons between Rapists and Sexual Murderers

		Total *M (SD)*	Sexual Murderers *M (SD)*	Rapists *M (SD)*	*t*	*df*	F	*p*
Age at First Offence [a]	7-57	24.11(8.29)	22.03 (7.38)	25.34 (8.62)	1.84	87	3.85	0.05
Age at Offence [b]	14-57	26.70 (8.60)	23.88 (7.08)	29.36 (9.14)	2.79	68	3.25	0.08
		Mdn (Range)	*Mdn* (Range)	*Mdn* (Range)	*U*	*z*	*r*	*p*
Age of Victim [c]		**27.00 (16-86)**	**35.00**	**25.00**	**864.50**	**-2.44**	**-0.24**	**0.02**
Age Sexual Abuse started [d]		12.00 (4-15)	12.00 (4-15)	12.00 (5-15)	46.50	-0.07	-0.01	0.96

a. n=89
b. n=70
c. n=102
d. n=24

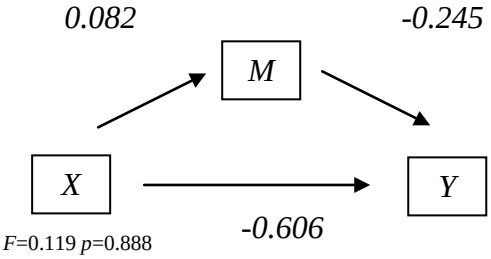
Appendix D: Figures and Tables of the Context Mediation Analyses

Perpetrator Age from Level of Aggression Used



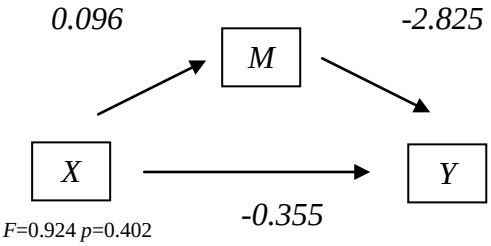
Model Summary: R^2=0.026, *F*=0.900 *p*=0.441

Figure A1. Predicting Perpetrator age (Y) from Level of Aggression (X) through Use of Drugs (M).



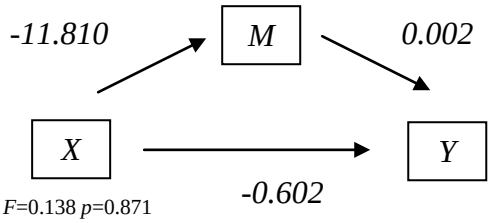
Model Summary: R^2=0.004, *F*=0.119 *p*=0.888

Figure A2. Predicting Perpetrator age (Y) from Level of Aggression (X) through Use of Alcohol (M).



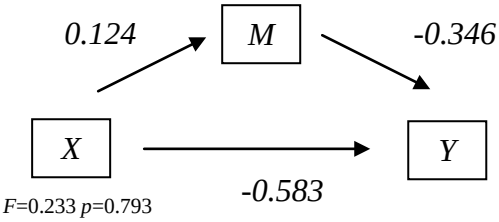
Model Summary: R^2=0.027, *F*=0.924 *p*=0.402

Figure A3. Predicting Perpetrator age (Y) from Level of Aggression (X) through Location of Initial Contact (M).



Model Summary: R^2=0.004, *F*=0.138 *p*=0.871

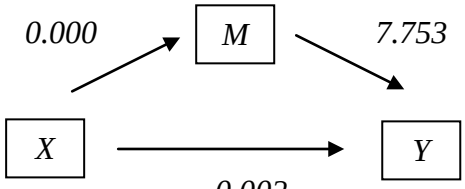
Figure A4. Predicting Perpetrator age (Y) from Level of Aggression (X) through Location of Offence (M).



Model Summary: R^2=0.007, *F*=0.233 *p*=0.793

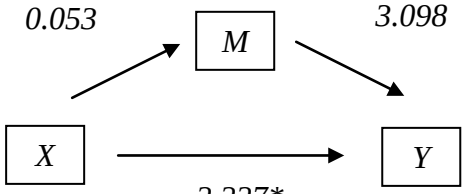
Figure A5. Predicting Perpetrator age (Y) from Level of Aggression (X) through Victim Resistance (M).

Perpetrator Age from Level of Injury



Model Summary: R^2=0.036, *F*=1.236 *p*=0.297

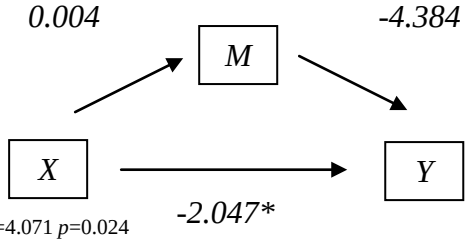
Figure A6. Predicting Perpetrator age (Y) from Level of Injury (X) through Use of Drugs (M).



Model Summary: R^2=0.099, *F*=2.304 *p*=0.112

* *p < 0.05*

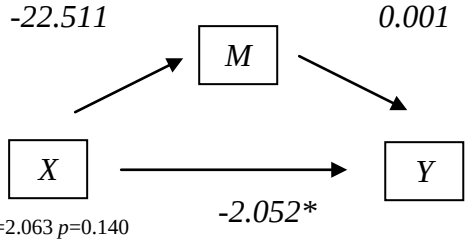
Figure A7. Predicting Perpetrator age (Y) from Level of Injury (X) through Use of Alcohol (M).



Model Summary: R^2=0.162, *F*=4.071 *p*=0.024

* *p < 0.05*

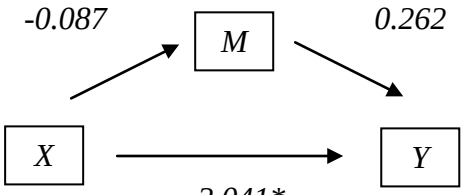
Figure A8. Predicting Perpetrator age (Y) from Level of Injury (X) through Location of Initial Contact (M).



Model Summary: R^2=0.089, *F*=2.063 *p*=0.140

** p < 0.05*

Figure A9. Predicting Perpetrator age (Y) from Level of Injury (X) through Location of Offence (M).

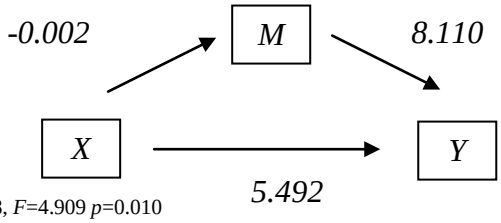


Model Summary: R^2=0.007, *F*=0.233 *p*=0.793

*p=0.05

Figure A10. Predicting Perpetrator age (Y) from Level of Injury (X) through Victim Resistance (M).

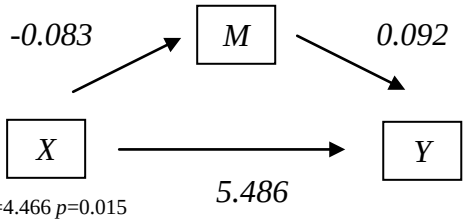
Perpetrator Age from Offence Outcome



Model Summary: R^2=0.128, *F*=4.909 *p*=0.010

*p<0.01

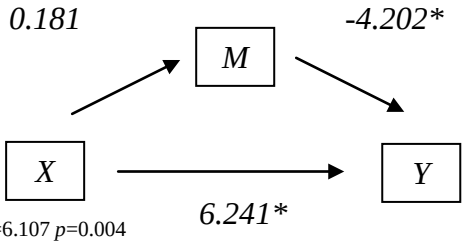
Figure A11. Predicting Perpetrator age (Y) from Offence Outcome (X) through the Use of Drugs (M).



Model Summary: R^2=0.118, *F*=4.466 *p*=0.015

*p<0.01

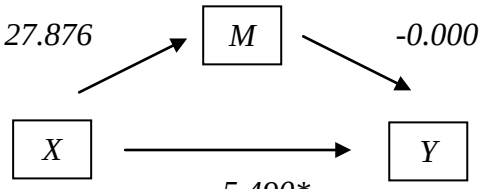
Figure A12. Predicting Perpetrator age (Y) from Offence Outcome (X) through the Use of Alcohol (M).



Model Summary: R^2=0.154, *F*=6.107 *p*=0.004

* $p < 0.05$; **p<0.01

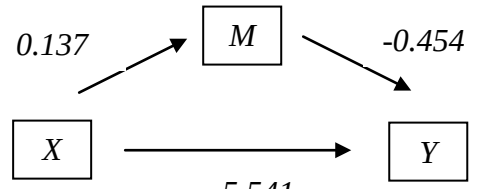
Figure A13. Predicting Perpetrator age (Y) from Offence Outcome (X) through the Location of Initial Contact (M).



Model Summary: R^2=0.103, *F*=3.839 *p*=0.026

*p< 0.01

Figure A14. Predicting Perpetrator age (Y) from Offence Outcome (X) through Location of Offence (M).

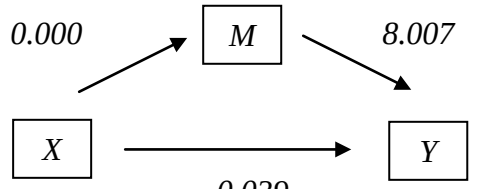


Model Summary: R^2=0.109, *F*=4.095 *p*=0.021

*p< 0.01

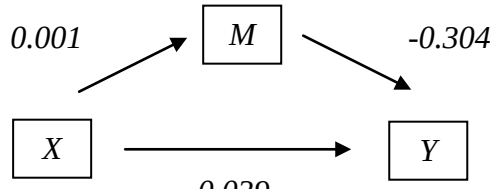
Figure A15. Predicting Perpetrator age (Y) from Offence Outcome (X) through Victim Resistance (M).

Perpetrator Age from Victim Age



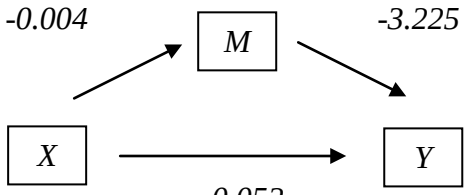
Model Summary: R^2=0.032, *F*=1.115 *p*=0.334

Figure A16. Predicting Perpetrator age (Y) from Victim Age (X) through the Use of Drugs (M).



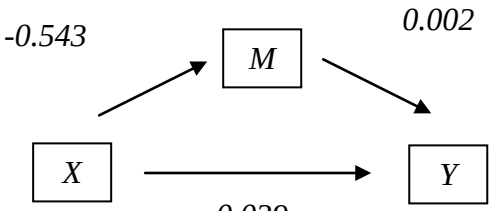
Model Summary: R^2=0.008, *F*=0.274 *p*=0.761

Figure A17. Predicting Perpetrator age (Y) from Victim Age (X) through the Use of Alcohol (M).



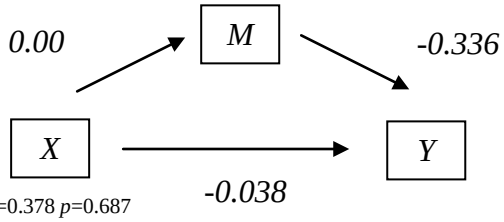
Model Summary: R^2=0.039, *F*=1.345 *p*=0.268

Figure A18. Predicting Perpetrator age (Y) from Victim Age (X) through the Location of Initial Contact (M).



Model Summary: R^2=0.008, *F*=0.284 *p*=0.754

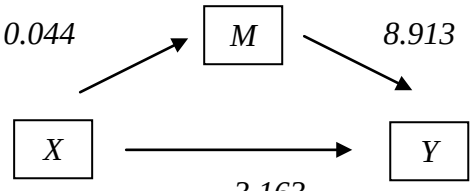
Figure A19. Predicting Perpetrator age (Y) from Victim Age (X) through the Location of Offence (M).



Model Summary: R^2=0.011, *F*=0.378 *p*=0.687

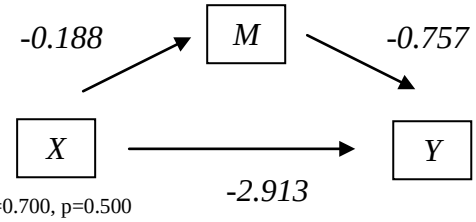
Figure A20. Predicting Perpetrator age (Y) from Victim Age (X) through Victim Resistance (M).

Perpetrator Age from Weapon Use



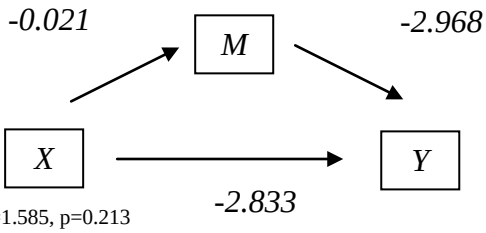
Model Summary: R^2=0.048, *F*=1.704, p=0.190

Figure A21. Predicting Perpetrator age (Y) from Weapon Being Used (X) through Use of Drugs (M).



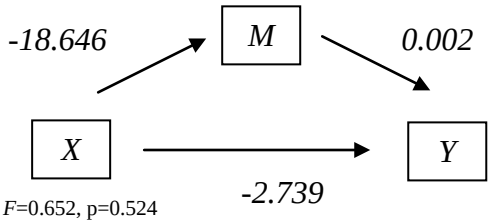
Model Summary: R^2=0.01, *F*=0.700, p=0.500

Figure A22. Predicting Perpetrator age (Y) from Weapon Being Used (X) through Use of Alcohol (M).



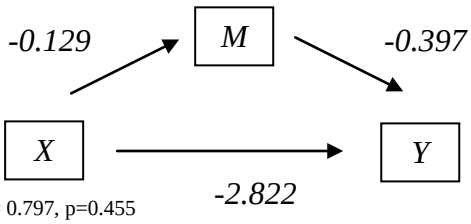
Model Summary: R^2=0.045, *F*=1.585, p=0.213

Figure A23. Predicting Perpetrator age (Y) from Weapon Being Used (X) through the Location of Initial Contact (M).



Model Summary: R^2=0.019, *F*=0.652, p=0.524

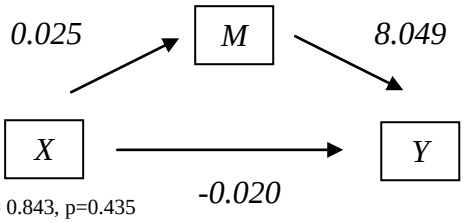
Figure A24. Predicting Perpetrator age (Y) from Weapon Being Used (X) through the Location of Offence (M).



Model Summary: R^2=0.023, *F*= 0.797, p=0.455

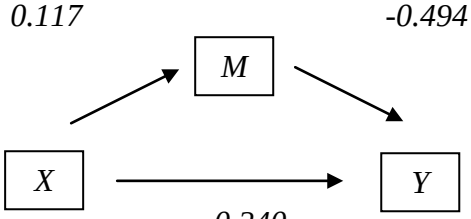
Figure A25. Predicting Perpetrator age (Y) from Weapon Being Used (X) through Victim Resistance (M).

Perpetrator Age from Sexual Penetration



Model Summary: R^2=0.025, *F*= 0.843, p=0.435

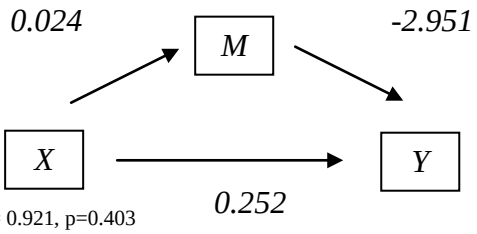
Figure A26. Predicting Perpetrator age (Y) from Sexual Penetration (X) through Use of Drugs(M).



Model Summary: R^2=0.001, *F*= 0.043, p=0.958

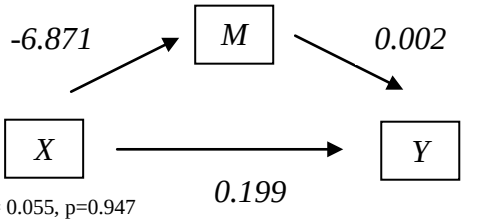
p < 0.05

Figure A27. Predicting Perpetrator age (Y) from Sexual Penetration (X) through Use of Alcohol (M).



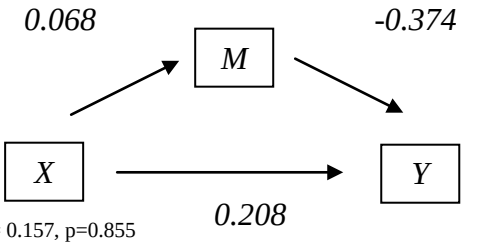
Model Summary: R^2=0.027, *F*= 0.921, p=0.403

Figure A28. Predicting Perpetrator age (Y) from Sexual Penetration (X) through Location of Initial Contact (M).



Model Summary: R^2=0.002, *F*= 0.055, p=0.947

Figure A30. Predicting Perpetrator age (Y) from Sexual Penetration (X) through Location of Offence (M).



Model Summary: R^2=0.005, *F*= 0.157, p=0.855

Figure A40. Predicting Perpetrator age (Y) from Sexual Penetration (X) through Victim Resistance (M).

Table A1. Indirect Effects of Level of Aggression on Perpetrator Age through Contextual Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.184	0.245	-0.754	-0.516	0.824	-1.549	0.276	-1.549	0.255
Alcohol	-0.020	0.170	-0.117	-0.511	0.496	-0.644	0.366	-0.644	0.366
Location of Initial Contact	-0.271	0.290	-0.935	-1.011	0.164	-1.095	0.105	-1.046	0.135
Location of Offence	-0.024	0.109	-0.218	-0.289	0.247	-0.249	0.277	-0.361	0.193
Victim Resistance	-0.043	0.116	-0.370	-0.583	0.326	-0.794	0.205	-0.779	0.213

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A2. Indirect Effects of Level of Injuries on Perpetrator Age through Contextual Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.000	0.000	0.405	-0.002	0.000	-0.000	0.001	-0.000	0.001
Alcohol	0.163	0.241	0.678	-0.334	0.813	-0.185	1.017	-0.200	0.974
Location of Initial Contact	-0.017	0.282	-0.059	-0.622	0.646	-0.603	0.667	-0.568	0.730
Location of Offence	0.012	0.168	-0.073	-0.315	0.442	-0.343	0.413	-0.398	0.358
Victim Resistance	-0.023	0.083	-0.272	-0.491	0.376	-0.934	0.197	-0.959	0.192

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A3. Indirect Effects of Offence Outcome on Perpetrator Age through Contextual Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.013	0.326	-0.041	-2.091	0.124	-0.568	0.464	-0.441	0.464
Alcohol	-0.008	0.164	-0.047	-0.654	0.597	-0.737	0.513	-0.687	0.555
Location of Initial Contact	-0.076	0.597	-1.277	-2.328	0.143	-2.633	0.057	-2.600	0.063
Location of Offence	-0.011	0.231	-0.048	-1.073	0.295	-0667	0.593	-0.370	1.633
Victim Resistance	-0.062	0.185	-0.337	-0.860	0.579	-1.254	0.320	-1.223	0.341

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A4. Indirect Effects of Victim Age on Perpetrator Age through Contextual Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.000	0.009	-0.041	-0.045	0.005	-0.014	0.021	-0.010	0.021
Alcohol	-0.000	0.003	-0.137	-0.016	0.015	-0.022	0.010	-0.021	0.010
Location of Initial Contact	0.012	0.012	0.948	-0.008	0.040	-0.004	0.048	-0.004	0.046
Location of Offence	-0.001	0.005	-0.198	-0.020	0.035	-0.021	0.033	-0.057	0.023
Victim Resistance	-0.002	0.005	-0.359	-0.023	0.013	-0.035	0.008	-0.033	0.008

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A5. Indirect Effects of a Weapon Being Used on Perpetrator Age through Contextual Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.392	0.500	0.784	0.015	4.339	0.002	3.833	-0.031	2.914
Alcohol	0.142	0.402	0.353	-0.866	1.206	-0.506	1.686	-0.490	1.762
Location of Initial Contact	0.062	0.402	0.154	-0.970	1.156	-0.821	1.304	-0.878	1.227
Location of Offence	-0.031	0.171	-0.184	-0.456	0.942	-0.486	0.927	-1.632	0.533
Victim Resistance	0.051	0.190	0.271	-0.700	1.093	-0.491	1.449	-0.569	1.288

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A6. Indirect Effects of Sexual Penetration on Perpetrator Age through Contextual Variables (*ab* paths)

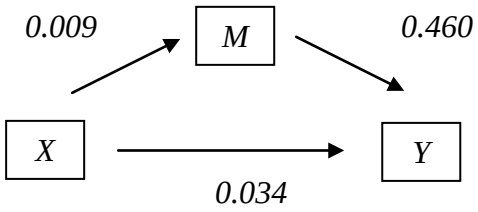
				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Drugs	2.02	0.217	0.932	0.018	2.071	0.010	1.894	-0.012	1.461
Alcohol	-0.058	0.251	-0.231	-0.614	0.607	-0.709	0.501	-0.753	0.470
Location of Initial Contact	-0.070	0.167	-0.422	-0.583	0.281	-0.737	0.191	-0.777	0.185
Location of Offence	-0.017	0.068	-0.245	-0.239	0.293	-0.161	0.393	-0.403	0.212
Victim Resistance	-0.026	0.079	-0.324	-0.376	0.263	-0.599	0.143	-0.599	0.143

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A7. Total Effects of Offence Variables on Perpetrator Age (*c* path)

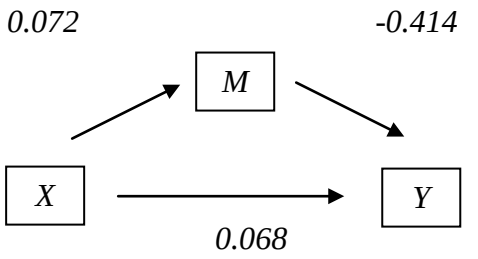
		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.626	1.312	-0.477	0.635
Level of Injuries	-2.064	1.005	-2.054	0.046
Offence Outcome	5.479	1.963	2.791	0.007
Victim Age	-0.039	0.054	-0.731	0.467
Weapon Used	-2.771	2.444	-1.134	0.261
Sexual Penetration	0.182	0.985	0.185	0.854

Relationship Status from Level of Aggression



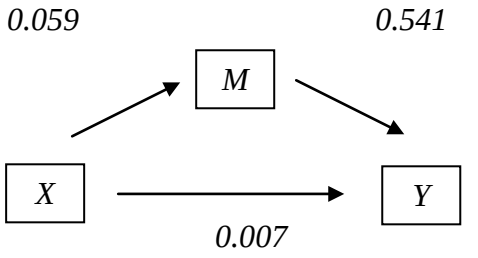
Regression Summary: -2LL=131.002, Model LL=0.189, McFadden=0.001, Cox Snell=0.002, Nagelkrk=0.003

Figure A41. Predicting Relationship Status (Y) from Level of Aggression (X) through Use of Drugs (M).



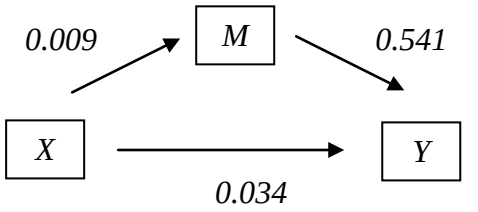
Regression Summary: -2LL=130.216, Model LL=0.976, McFadden=0.007, Cox Snell=0.010, Nagelkrk=0.013

Figure A42. Predicting Relationship Status (Y) from Level of Aggression (X) Use of Drugs and Alcohol (M).



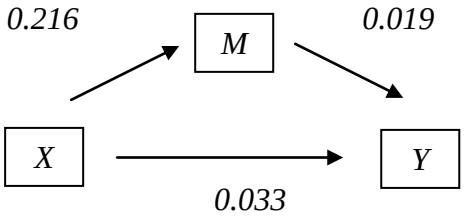
Regression Summary: -2LL=129.766, Model LL=1.426, McFadden=0. 011, Cox Snell=0.014, Nagelkrk=0.019

Figure A43. Predicting Relationship Status (Y) from Level of Aggression (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=129.747, Model LL=1.445, McFadden=0.011 Cox Snell=0.014, Nagelkrk=0.019

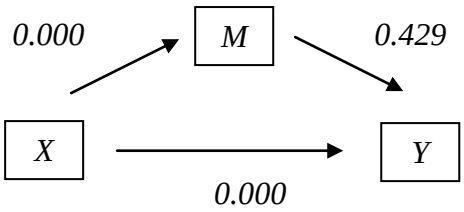
Figure A44. Predicting Relationship Status (Y) from Level of Aggression (X) through the Location of Offence (M).



Regression Summary: -2LL=131.149, Model LL=0.042, McFadden=0.000, Cox Snell=0.000, Nagelkrk=0.001

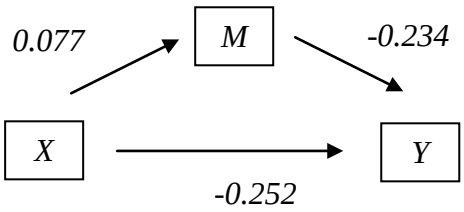
Figure A45. Predicting Relationship Status (Y) from Level of Aggression (X) through Victim Resistance (M).

Relationship Status from Level of Injury



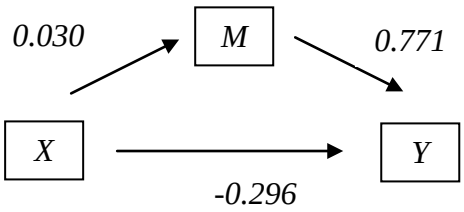
Regression Summary: -2LL=130.944, Model LL=0.247, McFadden=0.002, Cox Snell=0.002, Nagelkrk=0.003

Figure A46. Predicting Relationship Status (Y) from Level of Injury (X) through Use of Drugs (M).



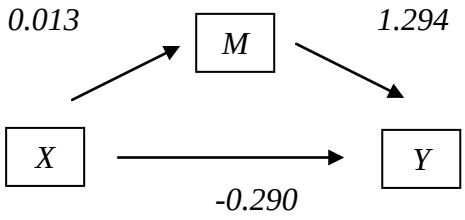
Regression Summary: -2LL=71.566, Model LL=1.431, McFadden=0.020, Cox Snell=0.025, Nagelkrk=0.035

Figure A47. Predicting Relationship Status (Y) from Level of Injury (X) through Use of Alcohol (M).



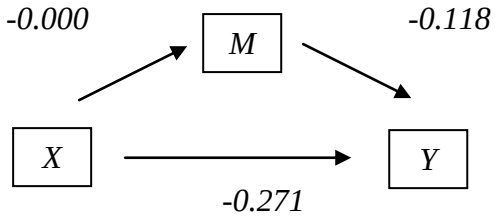
Regression Summary: -2LL=70.337, Model LL=2.660, McFadden=0.036, Cox Snell=0.046, Nagelkrk=0.064

Figure A48. Predicting Relationship Status (Y) from Level of Injury (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=68.906, Model LL=4.091, McFadden=0.056, Cox Snell=0.070, Nagelkrk=0.097

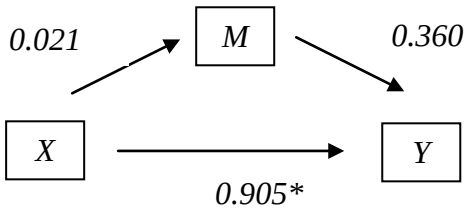
Figure A49. Predicting Relationship Status (Y) from Level of Injury (X) through the Location of Offence (M).



Regression Summary: -2LL=71.367, Model LL=1.629, McFadden=0.0223, Cox Snell=0.029, Nagelkrk=0.039

Figure A50. Predicting Relationship Status (Y) from Level of Injury (X) through Victim Resistance (M).

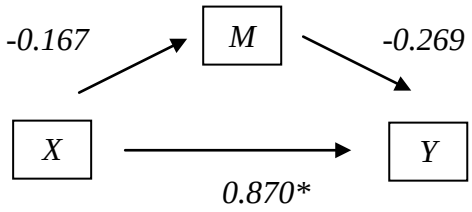
Relationship Status from Offence Outcome



Regression Summary: -2LL=126.573, Model LL=4.619, McFadden=0.035, Cox Snell=0.044, Nagelkrk=0.061

*$p < 0.05$

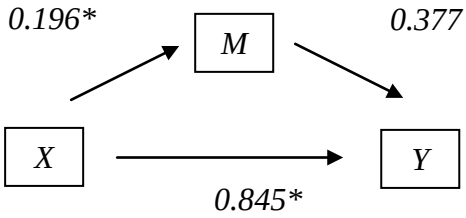
Figure A51. Predicting Relationship Status (Y) from Offence Outcome (Y) through Use of Drugs (M).



Regression Summary: -2LL=126.286, Model LL=4.905, McFadden=0.037, Cox Snell=0.047, Nagelkrk=0.065

*$p < 0.05$

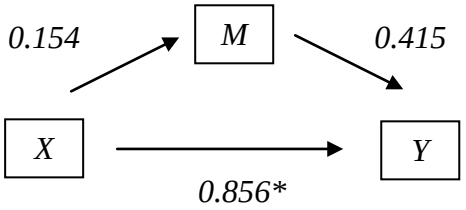
Figure A52. Predicting Relationship Status (Y) from Offence Outcome (Y) through Use of Alcohol (M).



Regression Summary: -2LL=126.034, Model LL=5.158, McFadden=0.039, Cox Snell=0.049, Nagelkrk=0.068

**p < 0.05*

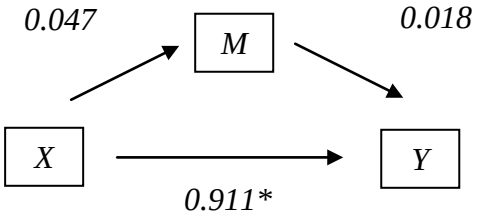
Figure A53 Predicting Relationship Status (Y) from Offence Outcome (Y) through the Location of Initial Contact (M).



Regression Summary: -2LL=125.884, Model LL=5.308, McFadden=0.041, Cox Snell=0.051, Nagelkrk=0.070

**p < 0.05*

Figure A54. Predicting Relationship Status (Y) from Offence Outcome (Y) through the Location of Offence (M).

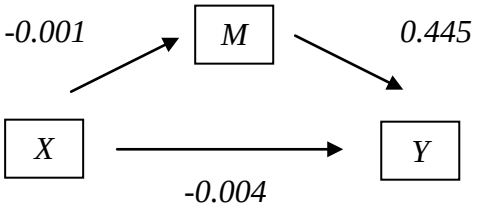


Regression Summary: -2LL=126.654, Model LL=4.538, McFadden=0.035, Cox Snell=0.044, Nagelkrk=0.060

**p < 0.05*

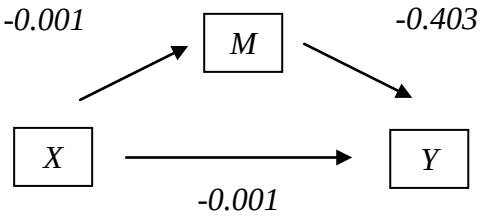
Figure A55. Predicting Relationship Status (Y) from Offence Outcome (Y) through Victim Resistance (M).

Relationship Status from Victim Age



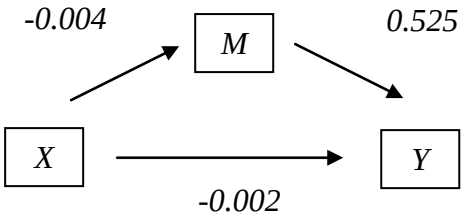
Regression Summary: -2LL=130.859, Model LL=0.333, McFadden=0.003, Cox Snell=0.003, Nagelkrk=0.005

Figure A56. Predicting Relationship Status (Y) from Victim Age (X) through Use of Drugs (M).



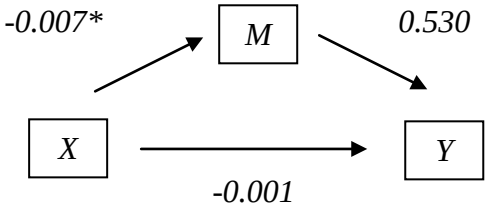
Regression Summary: -2LL=130.100, Model LL=1.0922, McFadden=0.008, Cox Snell=0.011, Nagelkrk=0.015

Figure A57. Predicting Relationship Status (Y) from Victim Age (X) through Use of Alcohol (M).



Regression Summary: -2LL=129.719, Model LL=1.472, McFadden=0.011, Cox Snell=0.014, Nagelkrk=0.020

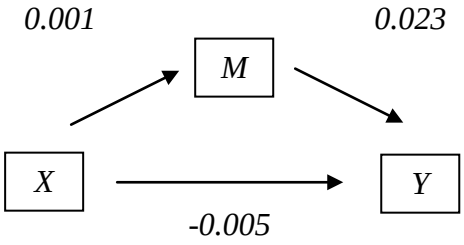
Figure A58. Predicting Relationship Status (Y) from Victim Age (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=129.757, Model LL=1.434, McFadden=0.011, Cox Snell=0.014, Nagelkrk=0.019

**p < 0.01*

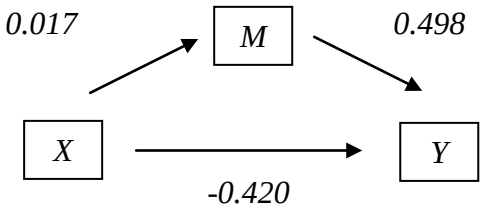
Figure A59. Predicting Relationship Status (Y) from Victim Age (X) through the Location of Offence (M).



Regression Summary: -2LL=130.987, Model LL=0.204, McFadden=0.002, Cox Snell=0.002, Nagelkrk=0.003

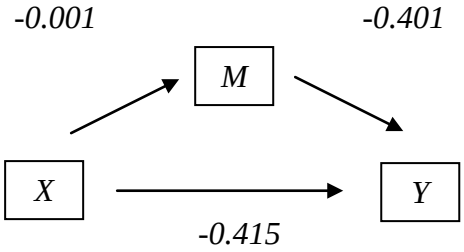
Figure A60. Predicting Relationship Status (Y) from Victim Age (X) through Victim Resistance (M).

Relationship Status from Weapon Being Used



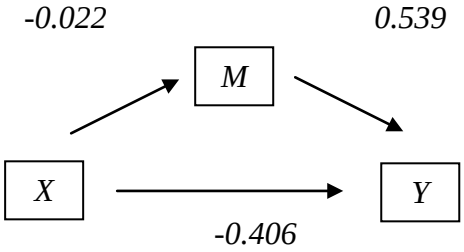
Regression Summary: -2LL=130.385, Model LL=0.806, McFadden=0.006, Cox Snell=0.008, Nagelkrk=0.011

Figure A61. Predicting Relationship Status (Y) from Weapon Used (X) through Use of Drugs (M).



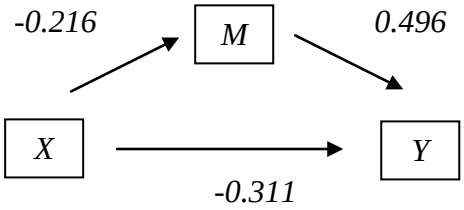
Regression Summary: -2LL=129.675, Model LL=1.516, McFadden=0.012, Cox Snell=0.015, Nagelkrk=0.020

Figure A62. Predicting Relationship Status (Y) from Weapon Used (X) through Use of Alcohol (M).



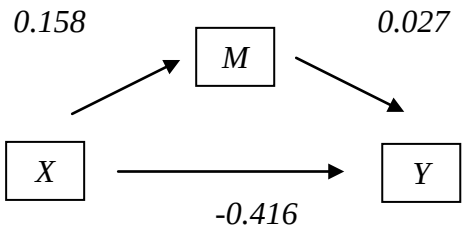
Regression Summary: -2LL=129.177, Model LL=2.015, McFadden=0.015, Cox Snell=0.020, Nagelkrk=0.027

Figure A63. Predicting Relationship Status (Y) from Weapon Used (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=129.426, Model LL=1.766, McFadden=0.014, Cox Snell=0.017, Nagelkrk=0.024

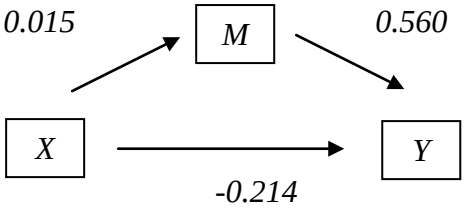
Figure A64. Predicting Relationship Status (Y) from Weapon Used (X) through the Location of Offence (M).



Regression Summary: -2LL=130.542, Model LL=0.649, McFadden=0.005, Cox Snell=0.006, Nagelkrk=0.009

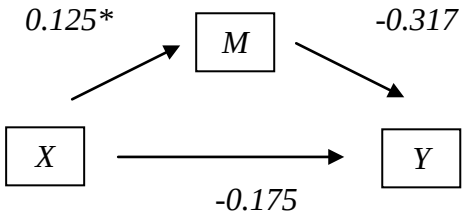
Figure A65. Predicting Relationship Status (Y) from Weapon Used (X) through Victim Resistance (M).

Relationship Status from Sexual Penetration



Regression Summary: -2LL=129.957, Model LL=1.234, McFadden=0.009, Cox Snell=0.044012 Nagelkrk=0.017

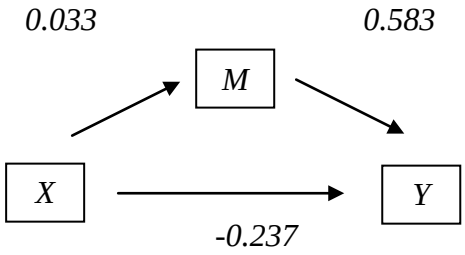
Figure A66. Predicting Relationship Status (Y) from Sexual Penetration (X) through Use of Drugs (M).



Regression Summary: -2LL=129.666, Model LL=1.526, McFadden=0.012, Cox Snell=0.015, Nagelkrk=0.021

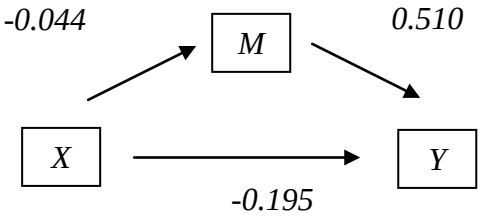
*$p < 0.05$

Figure A67. Predicting Relationship Status (Y) from Sexual Penetration (X) through Use of Alcohol (M).



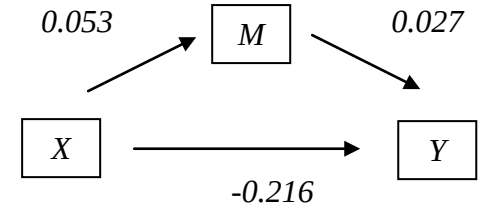
Regression Summary: -2LL=128.579, Model LL=2.612, McFadden=0.020, Cox Snell=0.025, Nagelkrk=0.035

Figure A68. Predicting Relationship Status (Y) from Sexual Penetration (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=128.955, Model LL=2.236, McFadden=0.017, Cox Snell=0.022, Nagelkrk=0.030

Figure A69. Predicting Relationship Status (Y) from Sexual Penetration (X) through the Location of Offence (M).



Regression Summary: -2LL=130.162, Model LL=1.029, McFadden=0.008, Cox Snell=0.010, Nagelkrk=0.014

Figure A70. Predicting Relationship Status (Y) from Sexual Penetration (X) through Victim Resistance (M).

Table A8. Indirect Effects of Level of Aggression on Relationship Status through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.004	0.291	-0.001	0.936	-0.010	0.320	-0.012	0.167
Alcohol	-0.030	0.048	-0.148	0.044	-0.192	0.025	-0.182	0.026
Location of Initial Contact	0.032	0.049	-0.043	0.159	-0.023	0.195	0.027	0.190
Location of Offence	0.005	0.052	-0.075	0.113	-0.060	0.129	-0.063	0.126
Victim Resistance	0.004	0.040	-0.084	0.089	-0.063	0.115	-0.064	0.114

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A9. Indirect Effects of Level of Injury on Relationship Status through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.000	0.001	-0.001	0.002	-0.000	0.002	-0.001	0.001
Alcohol	-0.018	0.061	-0.164	0.099	-0.216	0.063	-0.212	0.064
Location of Initial Contact	0.023	0.132	-0.109	0.140	-0.047	0.230	-0.048	0.230
Location of Offence	0.017	0.323	-0.929	0.592	-0.524	0.927	-0.541	0.897
Victim Resistance	0.000	0.045	-0.092	0.092	-0.085	0.102	-0.085	0.102

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A10. Indirect Effects of Offence Outcome on Relationship Status through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.007	0.395	-0.867	1.018	-0.236	1.618	-0.568	1.157
Alcohol	0.045	0.096	-0.124	0.266	-0.083	0.322	-0.084	0.320
Location of Initial Contact	0.074	0.124	-0.111	0.387	-0.088	0.442	-0.095	0.422
Location of Offence	0.064	0.108	-0.096	0.329	-0.059	0.413	-0.067	0.397
Victim Resistance	0.001	0.051	-0.115	0.106	-0.091	0.128	-0.102	0.117

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A11. Indirect Effects of Victim Age on Relationship Status through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.000	0.012	-0.039	0.000	-0.021	0.001	-0.016	0.002
Alcohol	0.000	0.002	-0.003	0.004	-0.002	0.005	-0.002	0.005
Location of Initial Contact	-0.002	0.003	-0.010	0.002	-0.011	0.001	-0.010	0.001
Location of Offence	-0.004	0.004	-0.012	0.003	-0.013	0.003	-0.012	0.003
Victim Resistance	0.000	0.001	-0.002	0.003	-0.002	0.003	-0.003	0.003

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A12. Indirect Effects of Weapon Used on Relationship Status through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.008	0.664	-0.694	2.155	-0.868	1.879	-1.340	1.129
Alcohol	0.000	0.085	-0.183	0.184	-0.190	0.174	-0.197	0.169
Location of Initial Contact	-0.012	0.097	-0.247	0.172	-0.296	0.140	-0.271	0.154
Location of Offence	-0.107	0.139	-0.452	0.082	-0.485	0.069	-0.454	0.081
Victim Resistance	0.004	0.064	-0.124	0.153	-0.096	0.188	-0.101	0.180

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A13. Indirect Effects of Sexual Penetration on Relationship Status through Contextual Variables (*ab* paths)

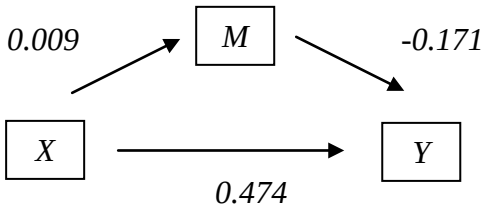
			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.008	0.362	-0.279	1.200	-0.306	1.165	-0.544	0.786
Alcohol	-0.040	0.065	-0.186	0.076	-0.201	0.065	-0.199	0.067
Location of Initial Contact	0.019	0.045	-0.052	0.135	-0.029	0.185	-0.028	0.186
Location of Offence	-0.023	0.055	-0.116	0.049	-0.162	0.023	-0.155	0.026
Victim Resistance	0.001	0.025	-0.056	0.055	-0.035	0.079	-0.037	0.074

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A14. Total Effects of Offence Variables on Relationship Status (*c* path)

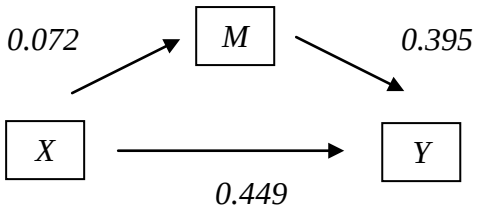
		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.038	0.237	0.158	0.874	0.025
Level of Injuries	-0.268	0.243	-1.105	0.269	1.219
Offence Outcome	0.912	0.431	2.116	0.034	4.476
Victim Age	-0.005	0.011	-0.426	0.670	0.181
Weapon Used	-0.411	0.520	-0.789	0.429	0.624
Sexual Penetration	-0.214	0.213	-1.005	0.315	1.011

Any Previous Convictions from Level of Aggression



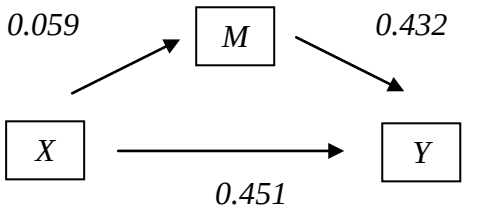
Regression Summary: -2LL=107.942, Model LL=3.359, McFadden=0.030, Cox Snell=0.032, Nagelkrk=0.049

Figure A71. Predicting Any Previous Convictions (Y) from Level of Aggression (X) through Use of Drugs (M).



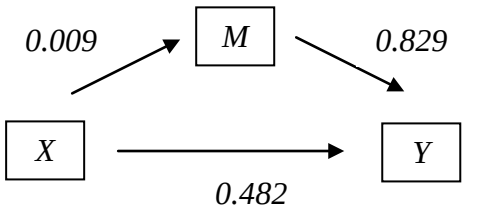
Regression Summary: -2LL=107.323, Model LL=3.979, McFadden=0.036, Cox Snell=0.038, Nagelkrk=0.058

Figure A72. Predicting Any Previous Convictions (Y) from Level of Aggression (X) through Use of Alcohol (M).



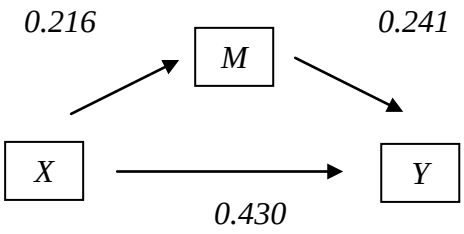
Regression Summary: -2LL=107.289, Model LL=4.013, McFadden=0.036, Cox Snell=0.039, Nagelkrk=0.058

Figure A73. Predicting Any Previous Convictions (Y) from Level of Aggression (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=105.600, Model LL=5.702, McFadden=0.051 Cox Snell=0.054, Nagelkrk=0.082

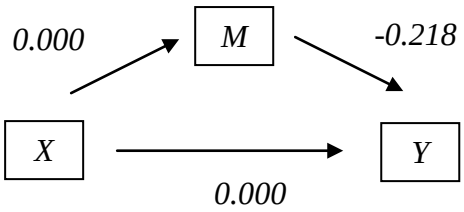
Figure A74. Predicting Any Previous Convictions (Y) from Level of Aggression (X) through the Location of Offence (M).



Regression Summary: -2LL=106.026, Model LL=5.276, McFadden=0.047, Cox Snell=0.050, Nagelkrk=0.076

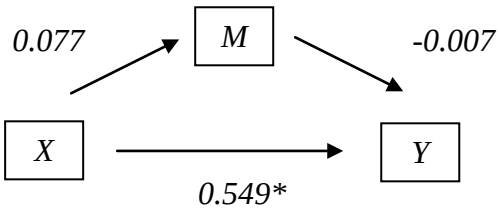
Figure A75. Predicting Any Previous Convictions (Y) from Level of Aggression (X) through Victim Resistance (M).

Any Previous Convictions from Level of Injury



Regression Summary: -2LL=110.523, Model LL=0.779, McFadden=0.007, Cox Snell=0.008, Nagelkrk=0.012

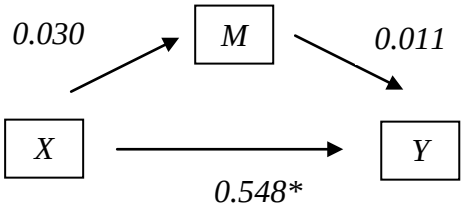
Figure A76. Predicting Any Previous Convictions (Y) from Level of Injury (X) through Use of Drugs (M).



Regression Summary: -2LL=60.391, Model LL=4.694, McFadden=0.072, Cox Snell=0.080, Nagelkrk=0.117

**p<0.05*

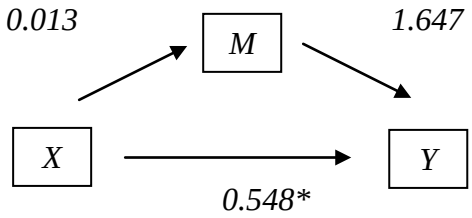
Figure A77. Predicting Any Previous Convictions (Y) from Level of Injury (X) through Use of Alcohol (M).



Regression Summary: -2LL=60.390, Model LL=4.695, McFadden=0.072, Cox Snell=0.080, Nagelkrk=0.117

** p<0.05*

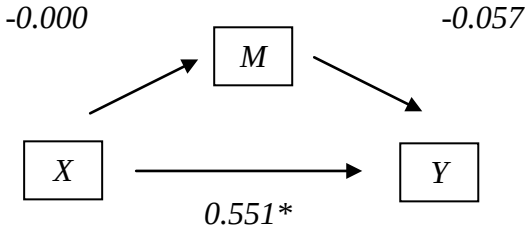
Figure A78. Predicting Any Previous Convictions (Y) from Level of Injury (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=57.384, Model LL=7.701, McFadden=0.118, Cox Snell=0.129, Nagelkrk=0.187

** p<0.05*

Figure A79. Predicting Any Previous Convictions (Y) from Level of Injury (X) through the Location of Offence (M).

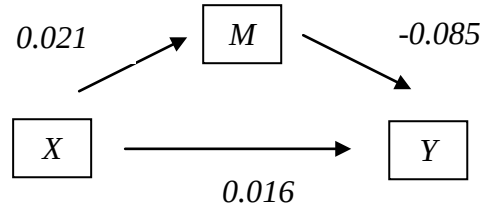


Regression Summary: -2LL=60.323, Model LL=4.761, McFadden=0.073, Cox Snell=0.082, Nagelkrk=0.119

** p<0.05*

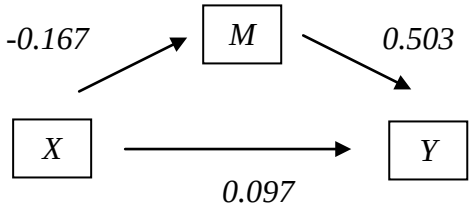
Figure A80. Predicting Any Previous Convictions (Y) from Level of Injury (X) through Victim Resistance (M).

Any Previous Convictions from Offence Outcome



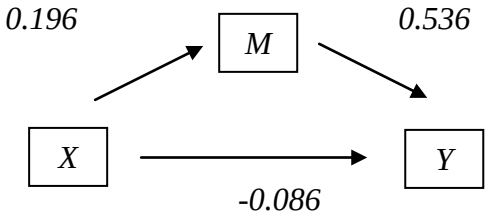
Regression Summary: -2LL=111.295, Model LL=0.006, McFadden=0.000, Cox Snell=0.000, Nagelkrk=0.000

Figure A81. Predicting Any Previous Convictions (Y) from Offence Outcome (X) through Use of Drugs (M).



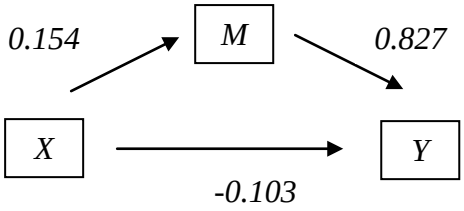
Regression Summary: -2LL=110.243, Model LL=1.059, McFadden=0.010, Cox Snell=0.010, Nagelkrk=0.016

Figure A82. Predicting Any Previous Convictions (Y) from Offence Outcome (X) through Use of Alcohol (M).



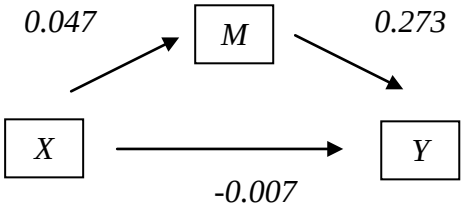
Regression Summary: -2LL=110.255, Model LL=1.046, McFadden=0.009, Cox Snell=0.010, Nagelkrk=0.015

Figure A83. Predicting Any Previous Convictions (Y) from Offence Outcome (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=108.917, Model LL=2.384, McFadden=0.021, Cox Snell=0.023, Nagelkrk=0.035

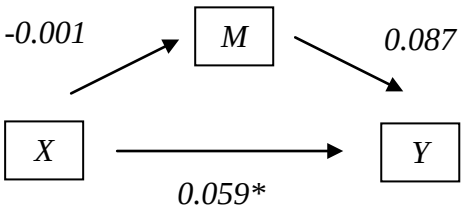
Figure A84. Predicting Any Previous Convictions (Y) from Offence Outcome (X) through the Location of Offence (M).



Regression Summary: -2LL=108.711, Model LL=2.591, McFadden=0.023, Cox Snell=0.025, Nagelkrk=0.038

Figure A85. Predicting Any Previous Convictions (Y) from Offence Outcome (X) through Victim Resistance (M).

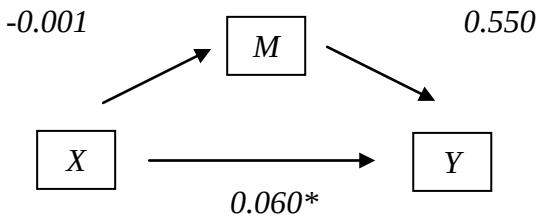
Any Previous Convictions from Victim Age



Regression Summary: -2LL=100.680, Model LL=10.621, McFadden=0.095, Cox Snell=0.099, Nagelkrk=0.149

**p<0.05*

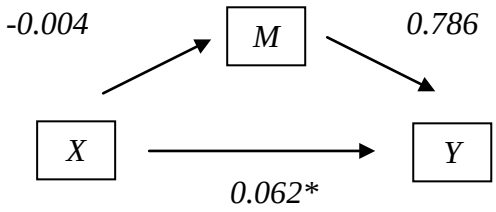
Figure A86. Predicting Any Previous Convictions (Y) from Victim Age (X) through Use of Drugs (M).



Regression Summary: -2LL=99.493, Model LL=11.808, McFadden=0.106, Cox Snell=0.109, Nagelkrk=0.165

**p<0.05*

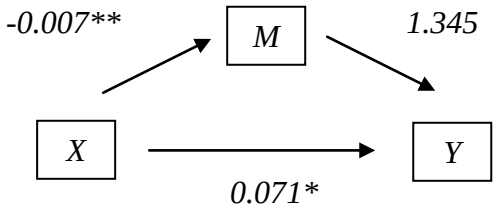
Figure A87. Predicting Any Previous Convictions (Y) from Victim Age (X) through Use of Alcohol (M).



Regression Summary: -2LL=100.595, Model LL=10.707, McFadden=0.096, Cox Snell=0.100, Nagelkrk=0.150

**p<0.01*

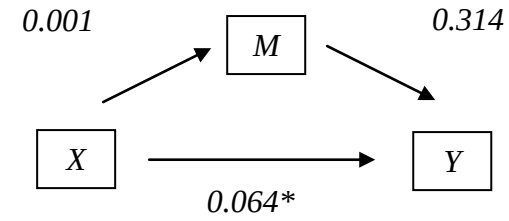
Figure A88. Predicting Any Previous Convictions (Y) from Victim Age (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=94.724, Model LL=16.577, McFadden=0.149, Cox Snell=0.150, Nagelkrk=0.226

**p<0.05; ** p<0.01*

Figure A89. Predicting Any Previous Convictions (Y) from Victim Age (X) through the Location of Offence (M).

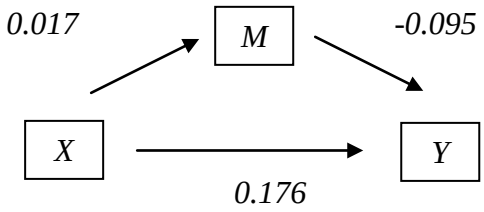


Regression Summary: -2LL=97.575, Model LL=13.727, McFadden=0.123, Cox Snell=0.126, Nagelkrk=0.190

** p<0.05*

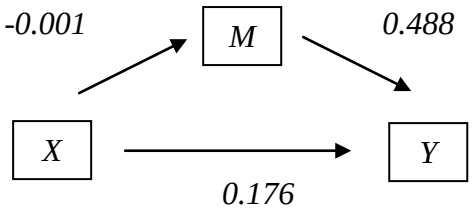
Figure A90. Predicting Any Previous Convictions (Y) from Victim Age (X) through Victim Resistance (M).

Any Previous Convictions from Weapon Being Used



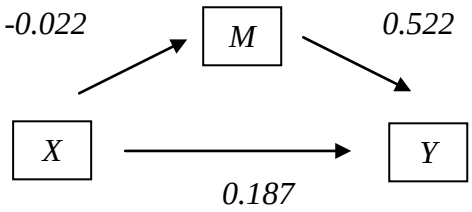
Regression Summary: -2LL=111.214, Model LL=0.088, McFadden=0.001, Cox Snell=0.001, Nagelkrk=0.001

Figure A91. Predicting Any Previous Convictions (Y) from Weapon Used (X) through Use of Drugs (M).



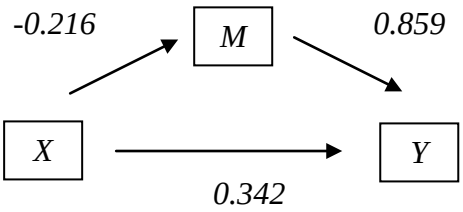
Regression Summary: -2LL=110.199, Model LL=1.102, McFadden=0.010, Cox Snell=0.011, Nagelkrk=0.016

Figure A92. Predicting Any Previous Convictions (Y) from Weapon Used (X) through Use of Alcohol (M).



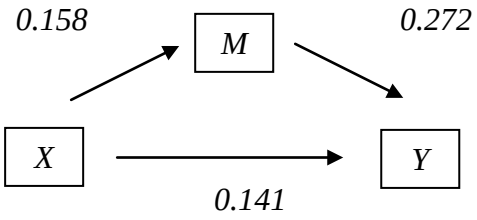
Regression Summary: -2LL=110.193, Model LL=1.108, McFadden=0.010, Cox Snell=0.011, Nagelkrk=0.016

Figure A93. Predicting Any Previous Convictions (Y) from Weapon Used (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=108.655, Model LL=2.647, McFadden=0.024, Cox Snell=0.026, Nagelkrk=0.039

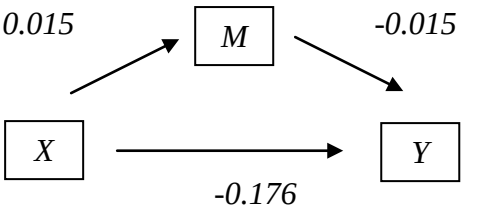
Figure A94. Predicting Any Previous Convictions (Y) from Weapon Used (X) through the Location of Offence (M).



Regression Summary: -2LL=108.660, Model LL=2.642, McFadden=0.024, Cox Snell=0.026, Nagelkrk=0.039

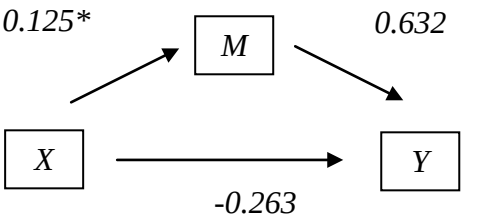
Figure A95. Predicting Any Previous Convictions (Y) from Weapon Used (X) through Victim Resistance (M).

Any Previous Convictions from Sexual Penetration



Regression Summary: -2LL=110.738, Model LL=0.564, McFadden=0.005, Cox Snell=0.006, Nagelkrk=0.008

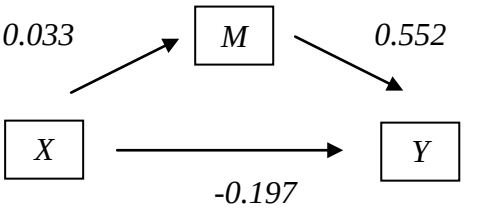
Figure A96. Predicting Any Previous Convictions (Y) from Sexual Penetration (X) through Use of Drugs (M).



Regression Summary: -2LL=109.180, Model LL=2.121, McFadden=0.019, Cox Snell=0.021, Nagelkrk=0.031

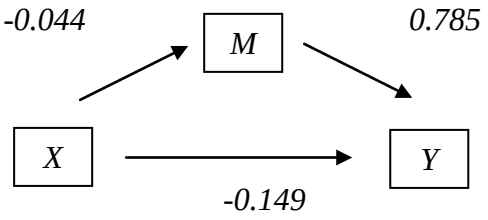
**p <0.05*

Figure A97. Predicting Any Previous Convictions (Y) from Sexual Penetration (X) through Use of Alcohol (M).



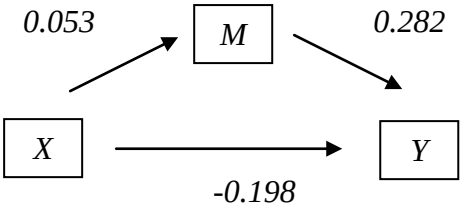
Regression Summary: -2LL=109.603, Model LL=1.699, McFadden=0.015, Cox Snell=0.017, Nagelkrk=0.025

Figure A98. Predicting Any Previous Convictions (Y) from Sexual Penetration (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=108.569, Model LL=2.732, McFadden=0.025, Cox Snell=0.020263, Nagelkrk=0.040

Figure A99. Predicting Any Previous Convictions (Y) from Sexual Penetration (X) through the Location of Offence (M).



Regression Summary: -2LL=108.027, Model LL=3.275, McFadden=0.029, Cox Snell=0.032, Nagelkrk=0.048

Figure A100. Predicting Any Previous Convictions (Y) from Sexual Penetration (X) through Victim Resistance (M).

Table A15. Indirect Effects of Level of Aggression on Any Previous Convictions through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.001	0.237	-0.584	0.550	-0.349	0.706	-0.184	1.182
Alcohol	0.028	0.054	-0.055	0.163	-0.032	0.213	-0.035	0.203
Location of Initial Contact	0.026	0.087	-0.060	0.156	-0.030	0.228	-0.035	0.199
Location of Offence	0.007	0.133	-0.112	0.168	-0.095	0.202	-0.099	0.190
Victim Resistance	0.052	0.067	-0.041	0.222	-0.025	0.270	-0.026	0.267

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A16. Indirect Effects of Level of Injury on Any Previous Convictions through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.000	0.001	-0.001	0.002	-0.001	0.002	-0.002	0.001
Alcohol	-0.001	0.093	-0.154	0.131	-0.151	0.133	-0.150	0.134
Location of Initial Contact	0.000	0.207	-0.081	0.173	-0.094	0.142	-0.105	0.121
Location of Offence	0.022	0.535	-0.487	1.683	-0.457	1.713	-1.332	1.288
Victim Resistance	0.000	0.045	-0.096	0.090	-0.105	0.084	-0.107	0.083

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A17. Indirect Effects of Offence Outcome on Any Previous Convictions through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.002	0.392	-0.915	0.932	-0.652	1.157	-1.228	0.825
Alcohol	-0.084	0.115	-0.360	0.080	-0.438	0.048	-0.429	0.053
Location of Initial Contact	0.105	0.193	-0.097	0.450	-0.071	0.529	-0.081	0.492
Location of Offence	0.127	0.250	-0.057	0.495	-0.024	0.650	-0.032	0.587
Victim Resistance	0.013	0.107	-0.219	0.219	-0.176	0.270	-0.177	0.268

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A18. Indirect Effects of Victim Age on Any Previous Convictions through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.000	0.010	-0.030	0.014	-0.027	0.017	-0.017	0.043
Alcohol	-0.000	0.002	-0.005	0.004	-0.006	0.003	-0.006	0.003
Location of Initial Contact	-0.004	0.006	-0.013	0.001	-0.014	0.001	-0.014	0.001
Location of Offence	-0.010	0.010	-0.023	-0.001	-0.023	-0.001	-0.023	-0.001
Victim Resistance	0.000	0.003	-0.005	0.008	-0.005	0.009	-0.005	0.010

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A19. Indirect Effects of Weapon Used on Any Previous Convictions through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.002	0.679	-0.681	2.161	-1.046	1.326	-2.551	0.713
Alcohol	-0.000	0.107	-0.256	0.210	-0.229	0.222	-0.218	0.229
Location of Initial Contact	-0.011	0.164	-0.246	0.203	-0.324	0.135	-0.297	0.151
Location of Offence	-0.185	0.330	-0.625	0.047	-0.737	0.017	-0.707	0.024
Victim Resistance	0.043	0.143	-0.185	0.408	-0.129	0.529	-0.130	0.519

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A20. Indirect Effects of Sexual Penetration on Any Previous Convictions through Contextual Variables (*ab* paths)

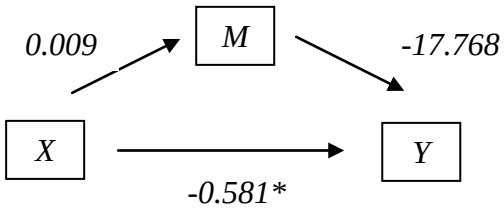
			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.000	0.351	-0.259	1.181	-0.378	0.742	-0.665	0.430
Alcohol	0.079	0.098	-0.045	0.296	-0.033	0.326	-0.041	0.304
Location of Initial Contact	0.018	0.067	-0.065	0.153	-0.035	0.237	-0.035	0.230
Location of Offence	-0.035	0.111	-0.186	0.053	-0.238	0.031	-0.217	0.039
Victim Resistance	0.015	0.057	-0.086	0.151	-0.058	0.190	-0.057	0.193

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A21. Total Effects of Offence Variables on Any Previous Convictions (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.472	0.258	1.833	0.067	3.358
Level of Injuries	0.548	0.260	2.107	0.035	4.441
Offence Outcome	0.014	0.482	0.028	0.977	0.001
Victim Age	0.059	0.024	2.491	0.013	6.207
Weapon Used	0.174	0.619	0.282	0.778	0.080
Sexual Penetration	-0.176	0.230	-0.767	0.443	0.588

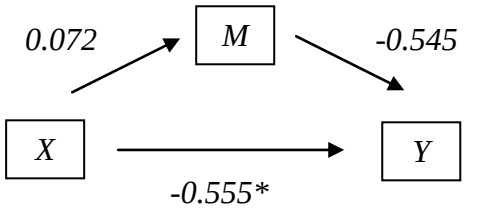
Lives Alone from Level of Aggression



Regression Summary: -2LL=94.757, Model LL=6.206, McFadden=0.062, Cox Snell=0.059, Nagelkrk=0.094

**p <0.05*

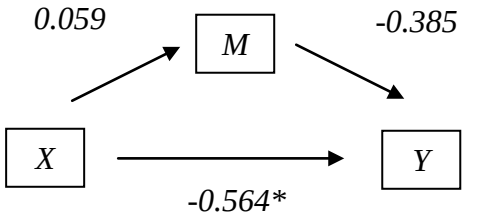
Figure A101. Predicting Lives Alone (Y) from Level of Aggression (X) through Use of Drugs (M).



Regression Summary: -2LL=95.418, Model LL=5.545, McFadden=0.055, Cox Snell=0.053, Nagelkrk=0.084

**p <0.05*

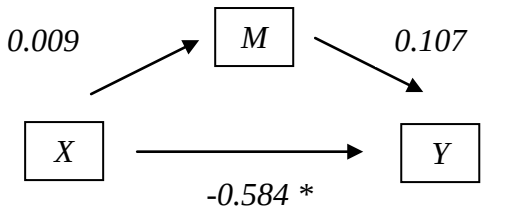
Figure A102. Predicting Lives Alone (Y) from Level of Aggression (X) through Use of Alcohol (M).



Regression Summary: -2LL=95.985, Model LL=4.979, McFadden=0.049, Cox Snell=0.048, Nagelkrk=0.076

**p*<0.05

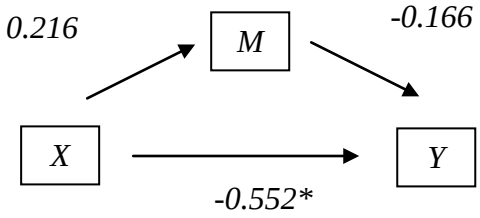
Figure A103. Predicting Lives Alone (Y) from Level of Aggression (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=96.403, Model LL=4.560, McFadden=0.045, Cox Snell=0.044, Nagelkrk=0.070

**p*<0.05

Figure A104. Predicting Lives Alone (Y) from Level of Aggression (X) through the Location of Offence (M).

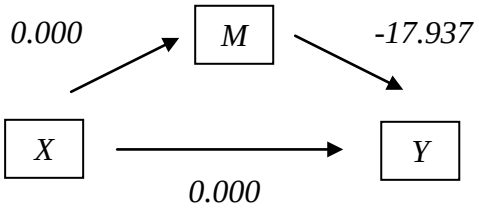


Regression Summary: -2LL=95.639, Model LL=5.324, McFadden=0.053, Cox Snell=0.051, Nagelkrk=0.081

*p<0.05

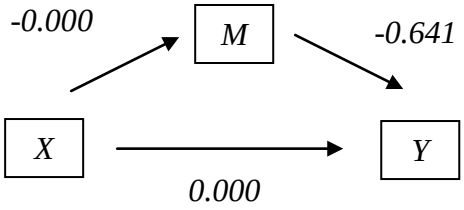
Figure A105. Predicting Lives Alone (Y) from Level of Aggression (X) through Victim Resistance (M).

Lives Alone from Level of Injury



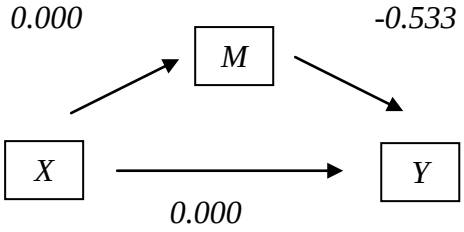
Regression Summary: -2LL=98.800, Model LL=2.163, McFadden=0.021, Cox Snell=0.021, Nagelkrk=0.033

Figure A106. Predicting Lives Alone (Y) from Level of Injury (X) through Use of Drugs and Alcohol (M).



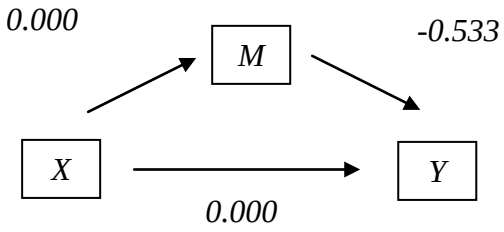
Regression Summary: -2LL=99.231, Model LL=1.732, McFadden=0.017, Cox Snell=0.017, Nagelkrk=0.027

Figure A107. Predicting Lives Alone (Y) from Level of Injury (X) through Use of Alcohol (M).



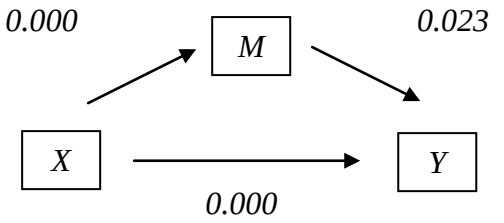
Regression Summary: -2LL=99.805, Model LL=1.159, McFadden=0.012, Cox Snell=0.011, Nagelkrk=0.018

Figure A108. Predicting Lives Alone (Y) from Level of Injury (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=99.805, Model LL=1.159, McFadden=0.012, Cox Snell=0.011, Nagelkrk=0.018

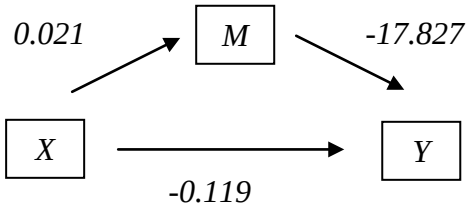
Figure A109. Predicting Lives Alone (Y) from Level of Injury (X) through the Location of Offence (M).



Regression Summary: -2LL=100.723, Model LL=0.240, McFadden=0.002, Cox Snell=0.002, Nagelkrk=0.004

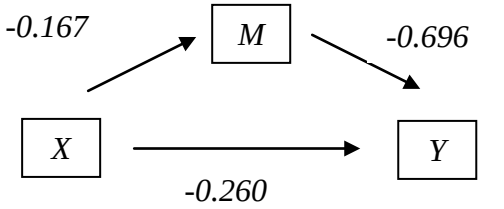
Figure A110. Predicting Lives Alone (Y) from Level of Injury (X) through Victim Resistance (M).

Lives Alone from Offence Outcome



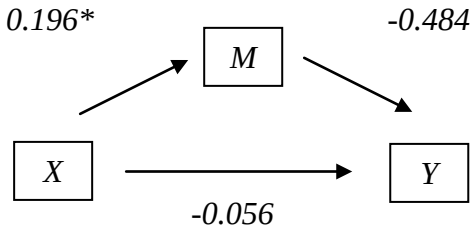
Regression Summary: -2LL=99.124, Model LL=1.839, McFadden=0.018, Cox Snell=0.018, Nagelkrk=0.028

Figure A111. Predicting Lives Alone (Y) from Offence Outcome (X) through Use of Drugs (M).



Regression Summary: -2LL=99.165, Model LL=1.798, McFadden=0.018, Cox Snell=0.018, Nagelkrk=0.028

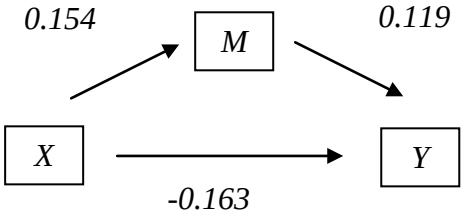
Figure A112. Predicting Lives Alone (Y) from Offence Outcome (X) through Use of Alcohol (M).



Regression Summary: -2LL=100.144, Model LL=0.819, McFadden=0.008, Cox Snell=0.008, Nagelkrk=0.013

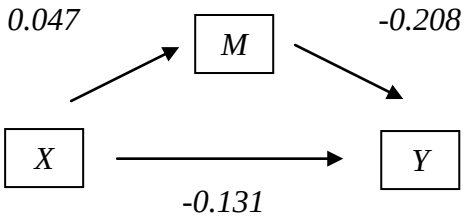
**p < 0.05*

Figure A113. Predicting Lives Alone (Y) from Offence Outcome (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=100.834, Model LL=0.130, McFadden=0.001, Cox Snell=0.001, Nagelkrk=0.002

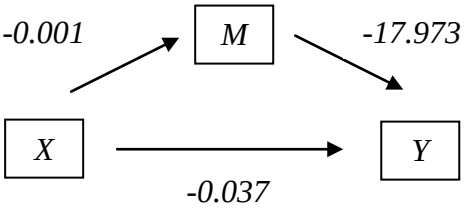
Figure A114. Predicting Lives Alone (Y) from Offence Outcome (X) through the Location of Offence (M).



Regression Summary: -2LL=99.546, Model LL=1.418, McFadden=0.014, Cox Snell=0.014, Nagelkrk=0.022

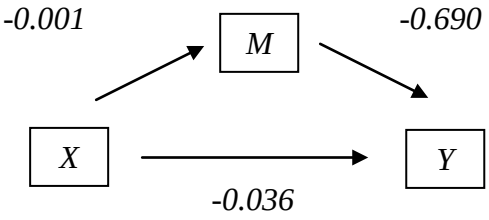
Figure A115. Predicting Lives Alone (Y) from Offence Outcome (X) through Victim Resistance (M).

Lives Alone from Victim Age



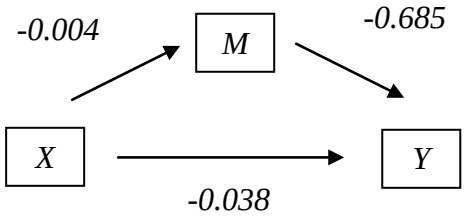
Regression Summary: -2LL=94.356, Model LL=6.608, McFadden=0.065, Cox Snell=0.063, Nagelkrk=0.100

Figure A116. Predicting Lives Alone (Y) from Victim Age (X) through Use of Drugs (M).



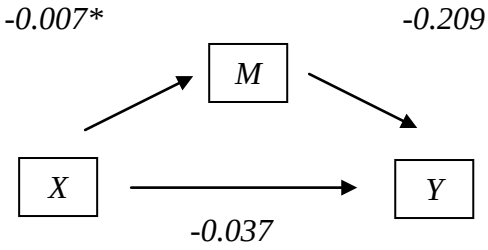
Regression Summary: -2LL=94.694, Model LL=6.269, McFadden=0.062, Cox Snell=0.060, Nagelkrk=0.095

Figure A117. Predicting Lives Alone (Y) from Victim Age (X) through Use of Alcohol (M).



Regression Summary: -2LL=94.875, Model LL=6.088, McFadden=0.060, Cox Snell=0.058, Nagelkrk=0.092

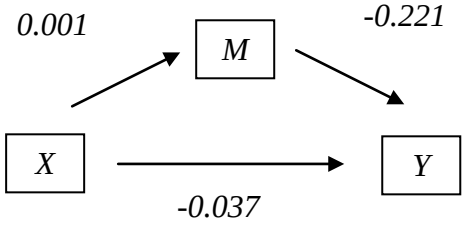
Figure A118. Predicting Lives Alone (Y) from Victim Age (X) through the Location of Initial Contact (M)



Regression Summary: -2LL=96.224, Model LL=4.739, McFadden=0.047, Cox Snell=0.045, Nagelkrk=0.072

**p < 0.01*

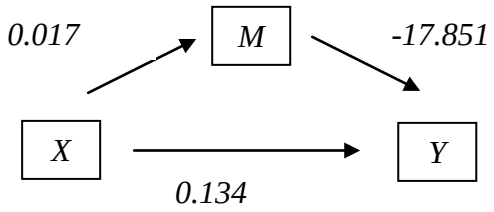
Figure A119. Predicting Lives Alone (Y) from Victim Age (X) through the Location of Offence (M).



Regression Summary: -2LL=94.911, Model LL=6.052, McFadden=0.060, Cox Snell=0.058, Nagelkrk=0.092

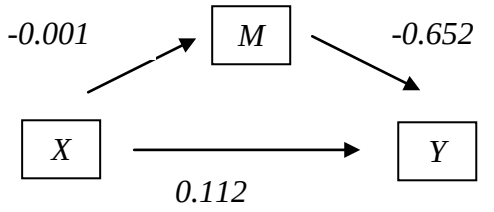
Figure A120. Predicting Lives Alone (Y) from Victim Age (X) through Victim Resistance (M).

Lives Alone from Weapon Being Used



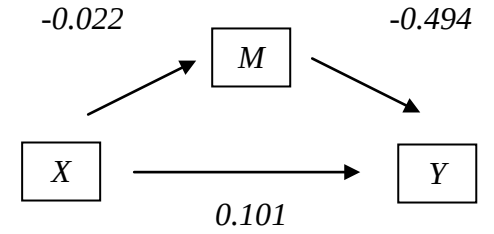
Regression Summary: -2LL=99.134, Model LL=1.829, McFadden=0.018, Cox Snell=0.018, Nagelkrk=0.028

Figure A121. Predicting Lives Alone (Y) from Weapon Used (X) through Use of Drugs (M).



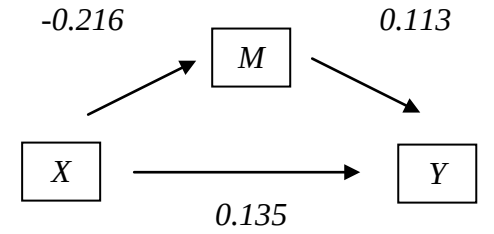
Regression Summary: -2LL=99.380, Model LL=1.584, McFadden=0.016, Cox Snell=0.015, Nagelkrk=0.025

Figure A122. Predicting Lives Alone (Y) from Weapon Used (X) through Use of Alcohol (M).



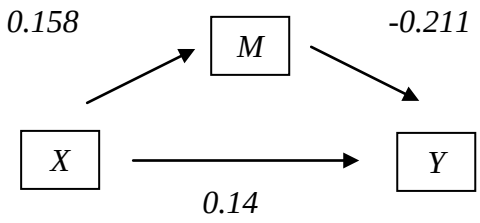
Regression Summary: -2LL=100.130, Model LL=0.833, McFadden=0.008, Cox Snell=0.008, Nagelkrk=0.013

Figure A123. Predicting Lives Alone (Y) from Weapon Used (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=100.888, Model LL=0.075, McFadden=0.001, Cox Snell=0.001, Nagelkrk=0.001

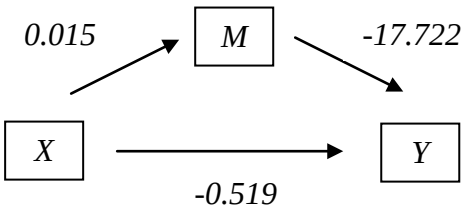
Figure A124. Predicting Lives Alone (Y) from Weapon Used (X) through the Location of Offence (M).



Regression Summary: -2LL=99.561, Model LL=1.403, McFadden=0.014, Cox Snell=0.014, Nagelkrk=0.022

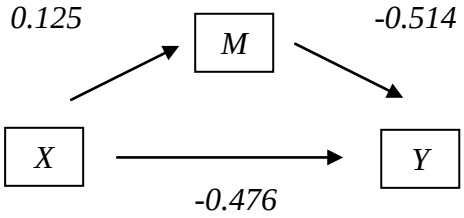
Figure A125. Predicting Lives Alone (Y) from Weapon Used (X) through Victim Resistance (M).

Lives Alone from Sexual Penetration



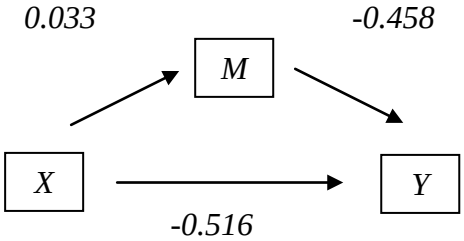
Regression Summary: -2LL=96.952, Model LL=4.012, McFadden=0.040, Cox Snell=0.039, Nagelkrk=0.061

Figure A126. Predicting Lives Alone (Y) from Sexual Penetration (X) through Use of Drugs (M).



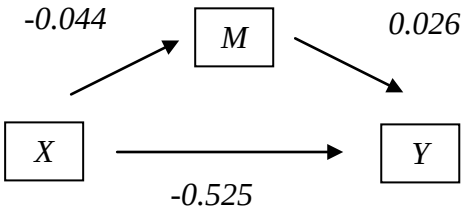
Regression Summary: -2LL=97.672, Model LL=3.291, McFadden=0.033, Cox Snell=0.032, Nagelkrk=0.051

Figure A127. Predicting Lives Alone (Y) from Sexual Penetration (X) through Use of Alcohol (M).



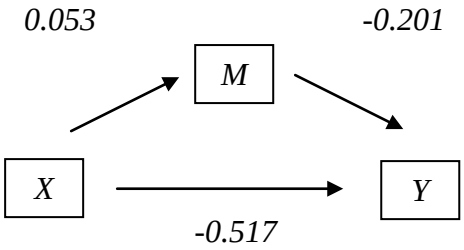
Regression Summary: -2LL=97.920, Model LL=3.043, McFadden=0.030, Cox Snell=0.029, Nagelkrk=0.047

Figure A128. Predicting Lives Alone (Y) from Sexual Penetration (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=98.593, Model LL=2.371, McFadden=0.024, Cox Snell=0.023, Nagelkrk=0.037

Figure A129. Predicting Lives Alone (Y) from Sexual Penetration (X) through the Location of Offence (M).



Regression Summary: -2LL=97.347, Model LL=3.616, McFadden=0.036, Cox Snell=0.035, Nagelkrk=0.055

Figure A130. Predicting Lives Alone (Y) from Sexual Penetration (X) through Victim Resistance (M).

Table A22. Indirect Effects of Level of Aggression on Lives Alone through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.151	0.402	-0.884	0.688	-0.880	0.696	-0.816	0.807
Alcohol	-0.039	0.092	-0.229	0.046	-0.301	0.027	-0.273	0.032
Location of Initial Contact	-0.023	0.141	-0.185	0.069	-0.247	0.037	-0.223	0.044
Location of Offence	0.001	0.054	-0.069	0.076	-0.067	0.080	-0.073	0.074
Victim Resistance	-0.036	0.070	-0.215	0.065	-0.282	0.038	-0.269	0.041

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A23. Indirect Effects of Level of Injury on Lives Alone through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.001	0.001	-0.003	0.001	-0.003	0.000	-0.003	0.000
Alcohol	0.000	0.000	-0.000	0.000	-0.000	0.000	-0.000	0.000
Location of Initial Contact	-0.000	0.000	-0.000	0.000	-0.001	0.000	-0.001	0.000
Location of Offence	0.000	0.000	-0.001	0.000	-0.000	0.000	-0.000	0.000
Victim Resistance	0.000	0.111	-0.117	0.158	-0.143	0.138	-0.147	0.132

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A24. Indirect Effects of Offence Outcome on Lives Alone through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.367	0.673	-1.629	0.986	-1.603	1.022	-1.547	1.127
Alcohol	0.116	0.190	-0.076	0.487	-0.044	0.573	-0.053	0.539
Location of Initial Contact	-0.095	0.259	-0.471	0.131	-0563	0.099	-0.515	0.112
Location of Offence	0.018	0.131	-0.217	0.245	-0.168	0.290	-0.163	0.305
Victim Resistance	-0.010	0.103	-0.246	0.163	-0.323	0.120	-0.314	0.123

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A25. Indirect Effects of Victim Age on Lives Alone through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.009	0.016	-0.021	0.041	-0.021	0.042	-0.020	0.043
Alcohol	0.000	0.004	-0.005	0.006	-0.004	0.007	-0.004	0.007
Location of Initial Contact	0.003	0.008	-0.002	0.014	-0.001	0.014	-0.002	0.014
Location of Offence	0.002	0.005	-0.007	0.012	-0.006	0.012	-0.007	0.012
Victim Resistance	-0.000	0.003	-0.006	0.005	-0.007	0.004	-0.008	0.003

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A26. Indirect Effects of Weapon Used on Lives Alone through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.294	1.009	-2.594	1.241	-2.936	1.094	-4.533	0.898
Alcohol	0.000	0.182	-0.240	0.277	-0.240	0.277	-0.247	0.267
Location of Initial Contact	0.012	0.190	-0.198	0.265	-0.141	0.372	-0159	0.320
Location of Offence	-0.024	0.197	-0.345	0.263	-0.380	0.236	-0.389	0.227
Victim Resistance	-0.033	0.133	-0.337	0.199	-0.512	0.107	-0.526	0.106

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A27. Indirect Effects of Sexual Penetration on Lives Alone through Contextual Variables (*ab* paths)

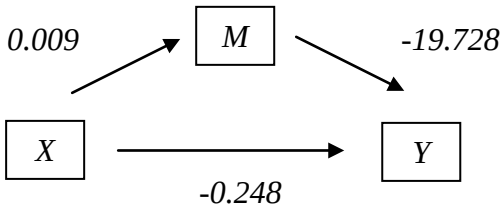
			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.264	0.498	-1.353	0.485	-1.585	0.436	-2.298	0.345
Alcohol	-0.064	0.179	-0.287	0.071	-0.318	0.060	-0.297	0.067
Location of Initial Contact	-0.015	0.115	-0.160	0.064	-0.272	0.035	-0.252	0.036
Location of Offence	-0.001	0.036	-0.079	0.077	-0.087	0.067	-0.091	0.065
Victim Resistance	-0.011	0.051	-0.138	0.070	-0.181	0.051	-0.192	0.048

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A28. Total Effects of Offence Variables on Lives Alone (*c* path)

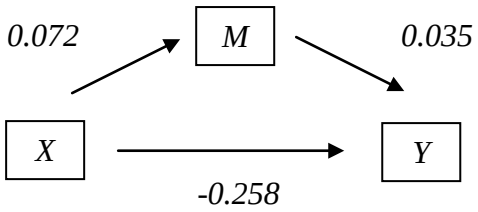
		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.583	0.275	-2.123	0.034	4.508
Level of Injuries	-0.422	0.291	-1.450	0.147	2.103
Offence Outcome	-0.145	0.511	-0.283	0.777	0.080
Victim Age	-0.036	0.020	-1.836	0.066	3.369
Weapon Used	0.110	0.628	0.176	0.861	0.031
Sexual Penetration	-0.526	0.406	-1.297	0.195	1.681

Employed from Level of Aggression



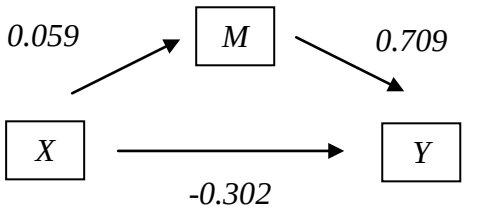
Regression Summary: -2LL=127.832, Model LL=8.787, McFadden=0.064, Cox Snell=0.083, Nagelkrk=0.112

Figure A131. Predicting Being Employed (Y) from Level of Aggression (X) through Use of Drugs (M).



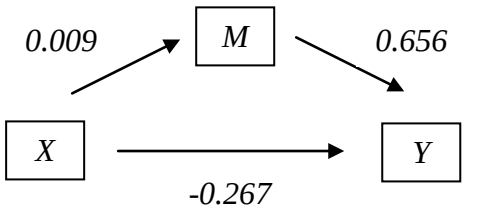
Regression Summary: -2LL=135.434, Model LL=1.186, McFadden=0.009, Cox Snell=0.012, Nagelkrk=0.016

Figure A132. Predicting Being Employed (Y) from Level of Aggression (X) through Use of Alcohol (M).



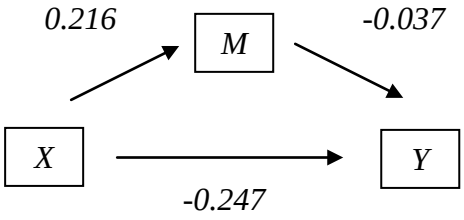
Regression Summary: -2LL=132.923, Model LL=3.696, McFadden=0.027, Cox Snell=0.036, Nagelkrk=0.048

Figure A133. Predicting Being Employed (Y) from Level of Aggression (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=133.259, Model LL=3.361, McFadden=0.025 Cox Snell=0.032, Nagelkrk=0.044

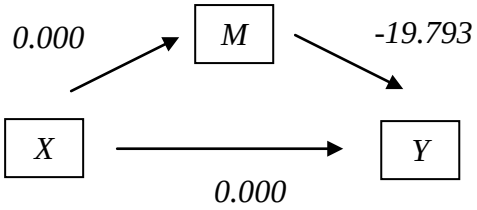
Figure A134. Predicting Being Employed (Y) from Level of Aggression (X) through the Location of Offence (M).



Regression Summary: -2LL=135.373, Model LL=1.247, McFadden=0.009, Cox Snell=0.012, Nagelkrk=0.017

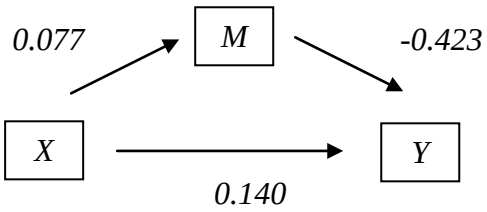
Figure A135. Predicting Being Employed (Y) from Level of Aggression (X) through Victim Resistance (M).

Being Employed from Level of Injury



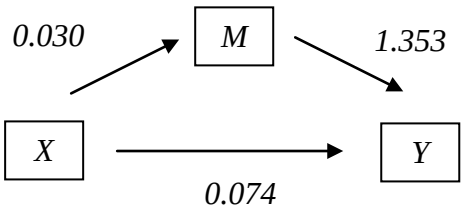
Regression Summary: -2LL=128.762, Model LL=7.858, McFadden=0.056, Cox Snell=0.074, Nagelkrk=0.101

Figure A136. Predicting Being Employed (Y) from Level of Injury (X) through Use of Drugs (M).



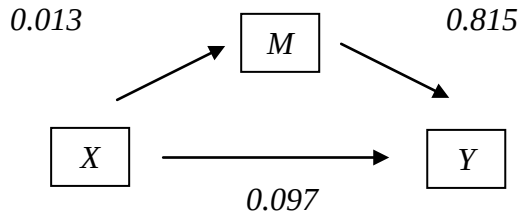
Regression Summary: -2LL=74.261, Model LL=0.780, McFadden=0.010, Cox Snell=0.014, Nagelkrk=0.019

Figure A137. Predicting Being Employed (Y) from Level of Injury (X) through Use of Alcohol (M).



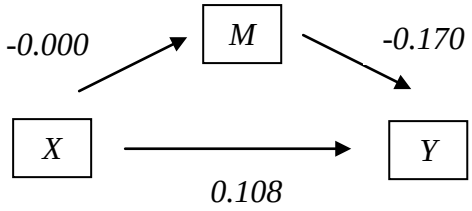
Regression Summary: -2LL=70.695, Model LL=4.346, McFadden=0.058, Cox Snell=0.075, Nagelkrk=0.101

Figure A138. Predicting Being Employed (Y) from Level of Injury (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=73.494, Model LL=1.547, McFadden=0.021, Cox Snell=0.027, Nagelkrk=0.037

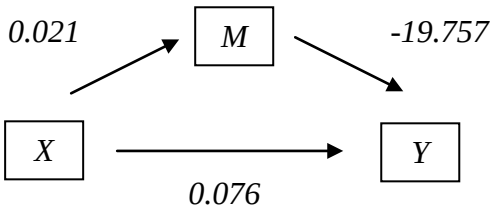
Figure A139. Predicting Being Employed (Y) from Level of Injury (X) through the Location of Offence (M).



Regression Summary: -2LL=74.035, Model LL=1.007, McFadden=0.013, Cox Snell=0.018, Nagelkrk=0.024

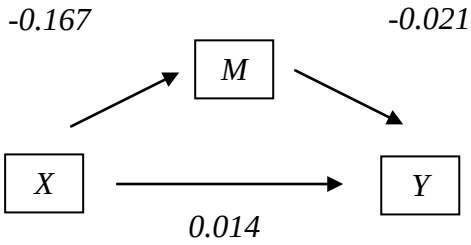
Figure A140. Predicting Being Employed (Y) from Level of Injury (X) through Victim Resistance (M).

Being Employed from Offence Outcome



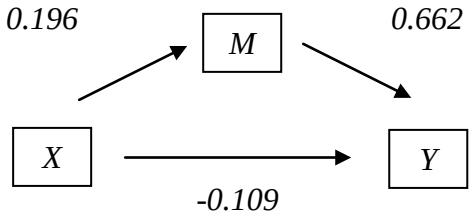
Regression Summary: -2LL=128.845, Model LL=7.775, McFadden=0.057, Cox Snell=0.073, Nagelkrk=0.099

Figure A141. Predicting Being Employed (Y) from Offence Outcome (X) through Use of Drugs (M).



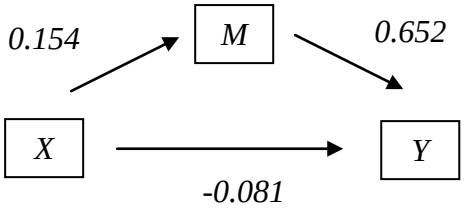
Regression Summary: -2LL=136.615, Model LL=0.004, McFadden=0.000, Cox Snell=0.000, Nagelkrk=0.000

Figure A142. Predicting Being Employed (Y) from Offence Outcome (X) through Use of Alcohol (M).



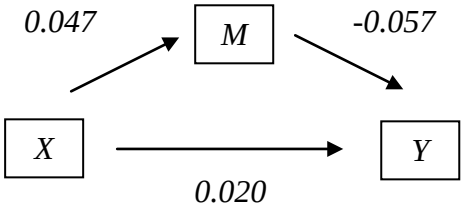
Regression Summary: -2LL=134.455, Model LL=2.165, McFadden=0.016, Cox Snell=0.021, Nagelkrk=0.029

Figure A143. Predicting Being Employed (Y) from Offence Outcome (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=134.483, Model LL=2.136, McFadden=0.016, Cox Snell=0.021, Nagelkrk=0.028

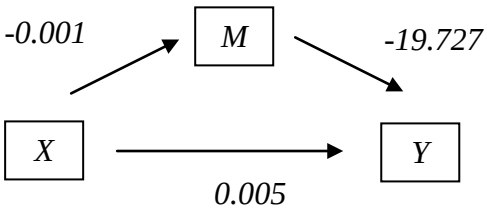
Figure A144. Predicting Being Employed (Y) from Offence Outcome (X) through the Location of Offence (M).



Regression Summary: -2LL=136.457, Model LL=0.162, McFadden=0.001, Cox Snell=0.002, Nagelkrk=0.002

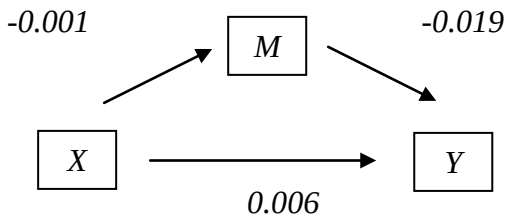
Figure A145. Predicting Being Employed (Y) from Offence Outcome (X) through Victim Resistance (M).

Being Employed from Victim Age



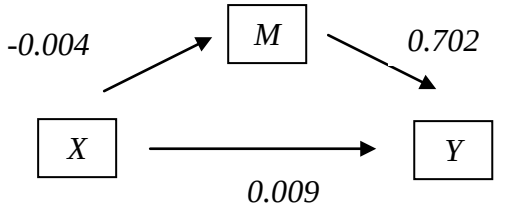
Regression Summary: -2LL=128.701, Model LL=7.918, McFadden=0.058, Cox Snell=0.075, Nagelkrk=0.101

Figure A146. Predicting Being Employed (Y) from Victim Age (X) through Use of Drugs (M).



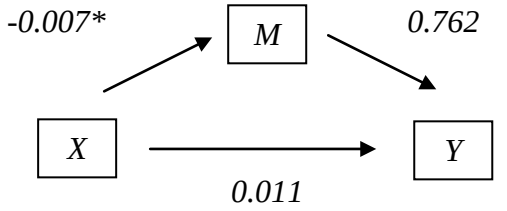
Regression Summary: -2LL=136.336, Model LL=0.284, McFadden=0.002, Cox Snell=0.003, Nagelkrk=0.004

Figure A147. Predicting Being Employed (Y) from Victim Age (X) through Use of Alcohol (M).



Regression Summary: -2LL=133.883, Model LL=2.737, McFadden=0.020, Cox Snell=0.0265, Nagelkrk=0.036

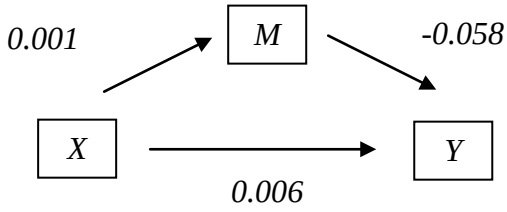
Figure A148. Predicting Being Employed (Y) from Victim Age (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=133.576, Model LL=3.044, McFadden=0.022, Cox Snell=0.029, Nagelkrk=0.040

** p<0.01*

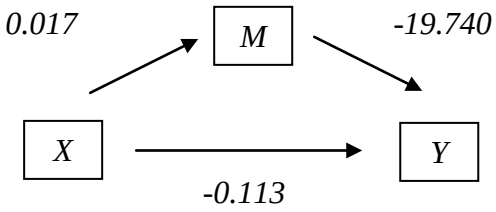
Figure A149. Predicting Being Employed (Y) from Victim Age (X) through the Location of Offence (M).



Regression Summary: -2LL=136.173, Model LL=0.447, McFadden=0.003, Cox Snell=0.004, Nagelkrk=0.006

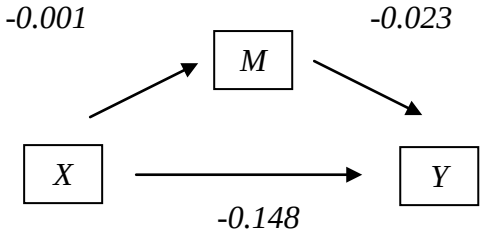
Figure A150. Predicting Being Employed (Y) from Victim Age (X) through Victim Resistance (M).

Being Employed from Weapon Being Used



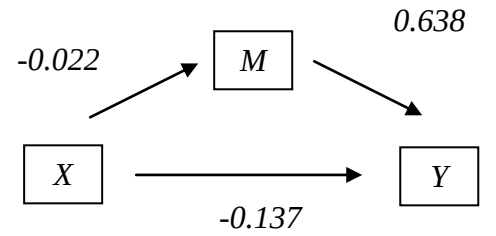
Regression Summary: -2LL=128.832, Model LL=7.788, McFadden=0.057, Cox Snell=0.074, Nagelkrk=0.100

Figure A151. Predicting Being Employed (Y) from Weapon Used (X) through Use of Drugs (M).



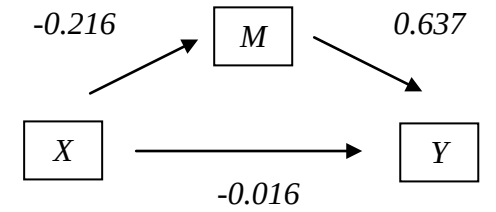
Regression Summary: -2LL=136.535, Model LL=0.085, McFadden=0.001, Cox Snell=0.001, Nagelkrk=0.001

Figure A152. Predicting Being Employed (Y) from Weapon Used (X) through Use of Alcohol (M).



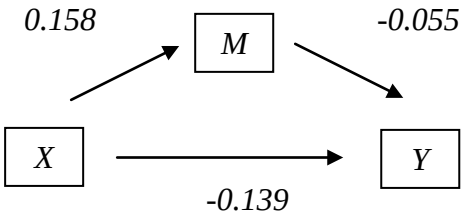
Regression Summary: -2LL=134.450, Model LL=2.169, McFadden=0.016, Cox Snell=0.021, Nagelkrk=0.029

Figure A153. Predicting Being Employed (Y) from Weapon Used (X) through the Location of Initial Contact (M).



Regression Summary: -2LL=134.518, Model LL=2.102, McFadden=0.015, Cox Snell=0.020, Nagelkrk=0.028

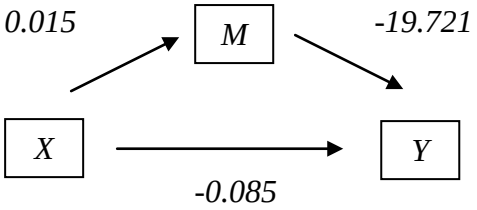
Figure A154. Predicting Being Employed (Y) from Weapon Used (X) through the Location of Offence (M).



Regression Summary: -2LL=136.388, Model LL=0.232, McFadden=0.002, Cox Snell=0.002, Nagelkrk=0.003

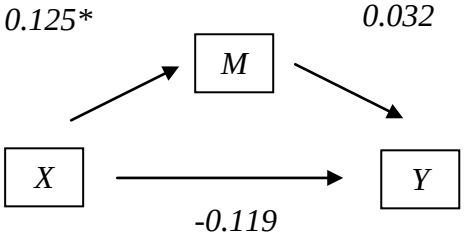
Figure A155. Predicting Being Employed (Y) from Weapon Used (X) through Victim Resistance (M).

Being Employed from Sexual Penetration



Regression Summary: -2LL=128.733, Model LL=7.886, McFadden=0.058, Cox Snell=0.074, Nagelkrk=0.101

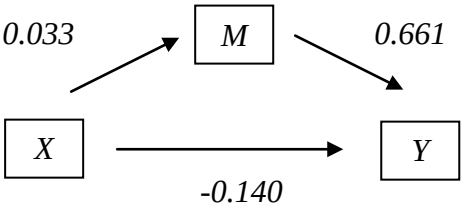
Figure A156. Predicting Being Employed (Y) from Sexual Penetration (Y) through Use of Drugs (M).



Regression Summary: -2LL=136.322, Model LL=0.298, McFadden=0.002, Cox Snell=0.003, Nagelkrk=0.004

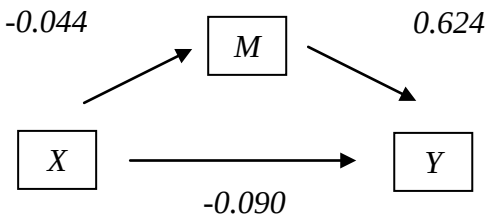
p < 0.05

Figure A157. Predicting Being Employed (Y) from Sexual Penetration (Y) through Use of Alcohol (M).



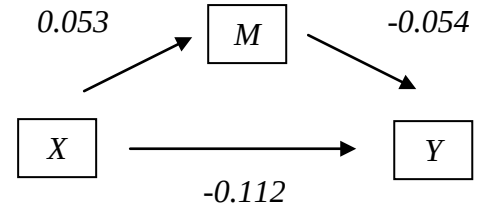
Regression Summary: -2LL=134.102, Model LL=2.517, McFadden=0.018, Cox Snell=0.024, Nagelkrk=0.033

Figure A158. Predicting Being Employed (Y) from Sexual Penetration (Y) through the Location of Initial Contact (M).



Regression Summary: -2LL=134.344, Model LL=2.276, McFadden=0.017, Cox Snell=0.022, Nagelkrk=0.030

Figure A159. Predicting Being Employed (Y) from Sexual Penetration (Y) through the Location of Offence (M).



Regression Summary: -2LL=136.182, Model LL=0.438, McFadden=0.003, Cox Snell=0.004, Nagelkrk=0.006

Figure A160. Predicting Being Employed (Y) from Sexual Penetration (Y) through Victim Resistance (M).

Table A29. Indirect Effects of Level of Aggression on Being Employed through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.167	0.445	-0.980	0.765	-0.935	0.833	-0.874	0.964
Alcohol	0.003	0.041	-0.081	0.097	-0.069	0.115	-0.070	0.113
Location of Initial Contact	0.042	0.051	-0.040	0.168	-0.021	0.203	-0.023	0.199
Location of Offence	0.006	0.046	-0.091	0.105	-0.072	0.130	-0.075	0.125
Victim Resistance	-0.008	0.042	-0.104	0.078	-0.129	0.055	-0.127	0.056

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A30. Indirect Effects of Level of Injury on Being Employed through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.001	0.001	-0.003	0.001	-0.003	0.000	-0.003	0.000
Alcohol	-0.033	0.066	-0.195	0.081	-0.264	0.042	-0.249	0.047
Location of Initial Contact	0.041	0.204	-0.229	0.237	-0.119	0.535	-0.120	0.525
Location of Offence	0.011	0.190	-0.199	0.169	-0.074	0.783	-0.079	0.689
Victim Resistance	0.000	0.050	-0.107	0.107	-0.105	0.110	-0.106	0.107

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A31. Indirect Effects of Offence Outcome on Being Employed through Contextual Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.406	0.751	-1.860	1.141	-1.795	1.222	-1.714	1.333
Alcohol	0.004	0.085	-0.180	0.185	-0163	0.204	-0.163	0.204
Location of Initial Contact	0.130	0.130	-0.047	0.454	-0.027	0.524	-0.031	0.491
Location of Offence	0.100	0.109	-0.047	0.383	-0.023	0.440	-0.030	0.427
Victim Resistance	-0.003	0.049	-0.120	0.093	-0.135	0.078	-0.131	0.081

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A32. Indirect Effects of Victim Age on Being Employed through Contextual Variables (*ab* paths)

	B	*SE*	Bootstrapping					
			Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	0.010	0.017	-0.025	0.043	-0.025	0.044	-0.023	0.045
Alcohol	0.000	0.001	-0.003	0.003	-0.002	0.003	-0.002	0.003
Location of Initial Contact	-0.003	0.003	-0.010	0.001	-0.011	0.000	-0.010	0.001
Location of Offence	-0.005	0.004	-0.014	0.001	-0.015	0.001	-0.014	0.001
Victim Resistance	-0.000	0.001	-0.003	0.002	-0.003	0.002	-0.003	0.002

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A33. Indirect Effects of Weapon Used on Being Employed through Contextual Variables (*ab* paths)

	B	*SE*	Bootstrapping					
			Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.326	1.117	-2.821	1.375	-3.180	1.233	-4.751	1.014
Alcohol	0.000	0.057	-0.116	0.126	-0.116	0.125	-0.123	0.117
Location of Initial Contact	-0.014	0.102	-0.259	0.181	-0.291	0.156	-0.270	0.169
Location of Offence	-0.137	0.136	-0.465	0.060	-0.525	0.038	-0.503	0.048
Victim Resistance	-0.009	0.065	-0.161	0.120	-0.217	0.075	-0.217	0.075

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A34. Indirect Effects of Sexual Penetration on Being Employed through Contextual Variables (*ab* paths)

	B	*SE*	Bootstrapping					
			Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Drugs	-0.294	0.581	-1.612	0.499	-1.705	0.478	-2.615	0.400
Alcohol	0.004	0.058	-0.113	0.122	-0.108	0.129	-0.110	0.127
Location of Initial Contact	0.022	0.048	-0.062	0.140	-0.039	0.175	-0.038	0.177
Location of Offence	-0.028	0.043	-0.132	0.044	-0.162	0.026	-0.148	0.033
Victim Resistance	-0.003	0.024	-0.061	0.041	-0.080	0.030	-0.080	0.030

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table A35. Total Effects of Offence Variables on Being Employed (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.255	0.238	-1.074	0.283	1.152
Level of Injuries	0.106	0.228	0.464	0.643	0.215
Offence Outcome	0.017	0.419	0.041	0.967	0.002
Victim Age	0.006	0.011	0.527	0.599	0.277
Weapon Used	-0.148	0.517	-0.286	0.775	0.082
Sexual Penetration	-0.115	0.212	-0.543	0.588	0.294

Appendix E: Content Dictionary for Implicit Theories Coding

The five identified Implicit Theories for sexual aggressors against adult females are listed below, with identifying features and examples of quotations taken from the various interviews undertaken in previous studies (e.g., Beech et al., 2005).

1) Women are Unknowable Dangerous
- Women are inherently different from men; these differences cannot be understood readily by men
- Women are inherently deceptive
- Offender will not seek intimacy with woman; will keep sex impersonal and relationship superficial
- Women know that their own desires/needs are incompatible with men and therefore they do not communicate these desires directly but present them in a disguised manner

"nice girls or whores"
"when women say no they really mean yes"
"just playing hard to get"
"women are sly and manipulating"
"really want a man to force her to have sex so she doesn't seem loose"

Victim focused

2) Women as Sex Objects
- Women exist in a constant state of sexual reception
- Women constantly desire sex
- They should always be reception/available to meet the sexual needs of a man
- Men misattribute sexual intent to women's nonsexual behaviour
- Women do not deliberately deceive men
- If a guy spends time and money on a girl its than expected and known she has to sleep with him if he so wants; moral obligation

"a woman can enjoy sex even when its forced upon her"
"rape is generally a misinterpretation of sexual cues"
"a woman should feel guilty following a rape"
"a raped woman is a responsible victim not an innocent one"
"only women who are physically beaten should feel justified in reporting a rape"
"many women have an unconscious wish to be rape and then unconsciously set up a situation in which they are likely to be attacked"
"a woman who changed her mind afterwards"

Victim focused

3) Male Sex Drive is Uncontrollable

- Men who rape attribute the causes of their offending to external factors
- Located in victim or in other features of the environment (i.e. alcohol)
- Male sex drive is hard to control and women play a key role in it loss of control
- Sexual build up can lead to aggressive outbursts

"women falsely accuse men of rape to protect their reputation"
"rape is a way to get back at a former lover"
"women can prevent being raped if they really want to"
"sexual offence occurred because she didn't understand me"
"she was asking for it"
"nice women don't get raped"

General theory; any potential perpetrator

4) Entitlement

- Men should have their needs, including their sexual needs meet on demand
- Men are inherently superior to women
- Women are sexually naïve and psychologically immature therefore men are entitled to control women's sexuality and to determine what a woman really wants
- Any man is entitled to punish a women for unsuitable conduct and the punishment can be rape if he wants sex
- Some people are superior to and more important than others

"being a whore or acting too good for a man justifies rape"
"if would do some women good to be raped"
"rape puts women in their place"
"a wife should always be sexual when required"
"women are there to meet men's sexual needs regardless of their own"
"men rape because women reject them"
"a spouse owes their partner sex no matter the circumstance"

Male specific

5) Dangerous World

- The world is inherently a hostile and uncaring place where by default others are out to harm, exploit and degrade and deceive in order to promote their own interests
- Often works in tandem with entitlement to justify and support exploitative and harmful behaviour towards others
- Perceive threats where evidence is absent or ambiguous
- Supports hostile behaviour towards others a s pre-emptive action to prevent inevitable harm to the self
- Necessary to fight back and achieve dominance and control over other people
- If women are perceived as threats and in need of retribution they become victims of sexual abuse

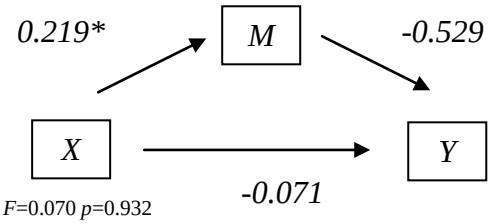
"it's a dog eat god world"
"she would have done the same to me if I hadn't got to her first"
"lots of people are out to get you"

“control or be controlled”
“I did it to get revenge on her and her mother”
“I had to teach her a lesson”
“she had no right to question my authority”

General theory; predict others behaviour

Appendix F: Figures and Tables of the Implicit Theories Mediation Analyses

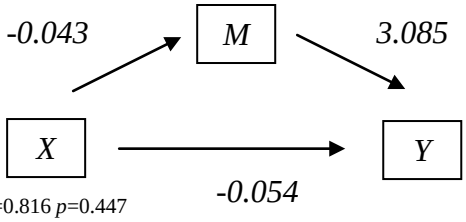
Perpetrator Age from Level of Aggression Used



Model Summary: R^2=0.002, *F*=0.070 *p*=0.932

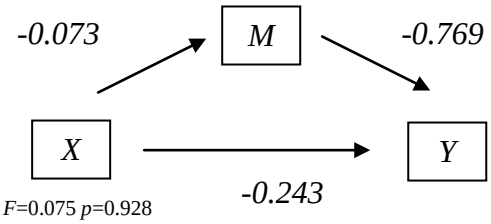
*$p<0.05$

Figure C1. Predicting Perpetrator age (Y) from Aggression (X) through Dangerous World IT (M).



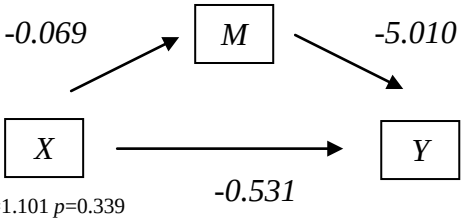
Model Summary: R^2=0.025, *F*=0.816 *p*=0.447

Figure C2. Predicting Perpetrator age (Y) from Aggression (X) through Women as Sex Objects IT (M).



Model Summary: R^2=0.002, *F*=0.075 *p*=0.928

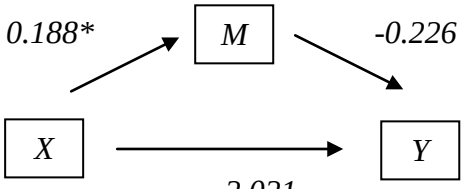
Figure C3. Predicting Perpetrator age (Y) from Aggression (X) through Male Sex Drive Uncontrollable IT (M).



Model Summary: R^2=0.033, *F*=1.101 *p*=0.339

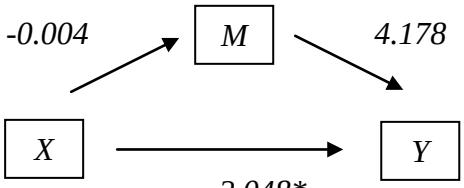
Figure C4. Predicting Perpetrator age (Y) from Aggression (X) through Entitlement IT (M).

Perpetrator Age from Level of Injury



Model Summary: R^2=0.090, *F*=2.071 *p*=0.139

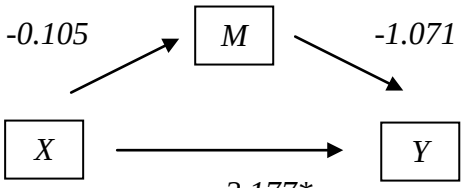
Figure C5. Predicting Perpetrator age (X) from Level of Injury (Y) through Dangerous World IT (M).



Model Summary: R^2=0.125, *F*=3.003 *p*=0.060

* *p*=0.05

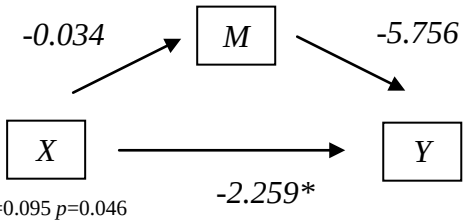
Figure C6. Predicting Perpetrator age (X) from Level of Injury (Y) through Women as Sex Objects IT (M).



Model Summary: R^2=0.093, *F*=2.159 *p*=0.128

** p < 0.05*

Figure C7. Predicting Perpetrator age (X) from Level of Injury (Y) through Male Sex Drive Uncontrollable IT (M).

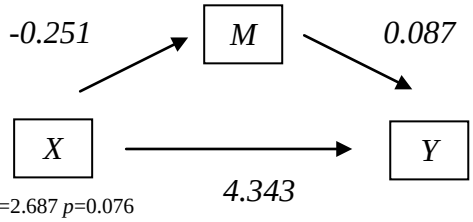


Model Summary: R^2=0.136, *F*=0.095 *p*=0.046

**p* <0.05

Figure C8. Predicting Perpetrator age (X) from Level of Injury (Y) through Entitlement IT (M).

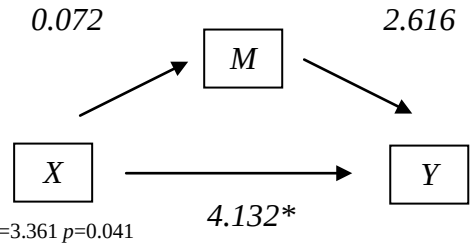
Perpetrator Age from Offence Outcome



Model Summary: R^2=0.078, *F*=2.687 *p*=0.076

*p<0.01

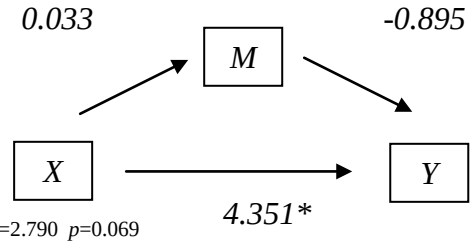
Figure C9. Predicting Perpetrator age (X) from Offence Outcome (Y) through Dangerous World IT (M).



Model Summary: R^2=0.095, *F*=3.361 *p*=0.041

* p<0.05

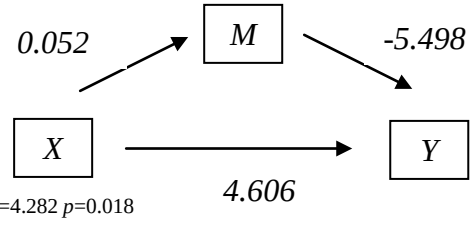
Figure C10. Predicting Perpetrator age (X) from Offence Outcome (Y) through Women as Sex Objects IT (M).



Model Summary: R^2=0.080, *F*=2.790 *p*=0.069

*p<0.05

Figure C11. Predicting Perpetrator age (X) from Offence Outcome (Y) through Male Sex Drive Uncontrollable IT (M).

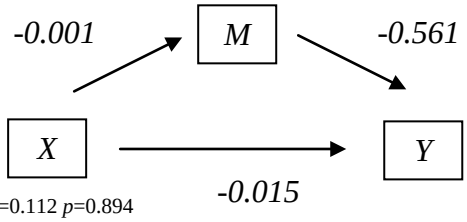


Model Summary: R^2=0.118, *F*=4.282 *p*=0.018

*p<0.05

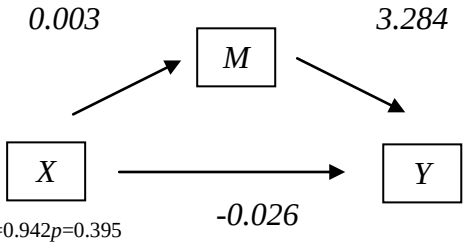
Figure C12. Predicting Perpetrator age (X) from Offence Outcome (Y) through Entitlement IT (M).

Perpetrator Age from Victim Age



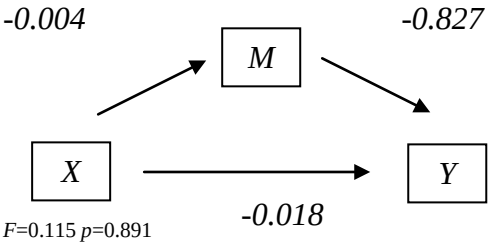
Model Summary: R^2=0.004, *F*=0.112 *p*=0.894

Figure C13. Predicting Perpetrator age (X) from Victim Age (Y) through Dangerous World IT (M).



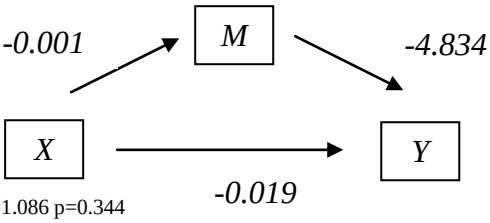
Model Summary: R^2=0.029, *F*=0.942*p*=0.395

Figure C14. Predicting Perpetrator age (X) from Victim Age (Y) through Women as Sex Objects IT (M).



Model Summary: R^2=0.004, *F*=0.115 *p*=0.891

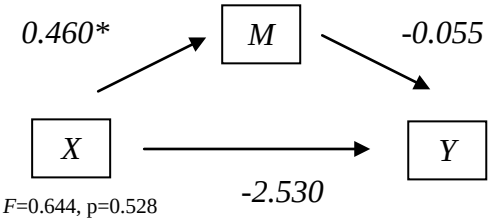
Figure C15. Predicting Perpetrator age (X) from Victim Age (Y) through Male Sex Drive Uncontrollable IT (M).



Model Summary: R^2=0.033, *F*=1.086 p=0.344

Figure C16. Predicting Perpetrator age (X) from Victim Age (Y) through Entitlement IT (M).

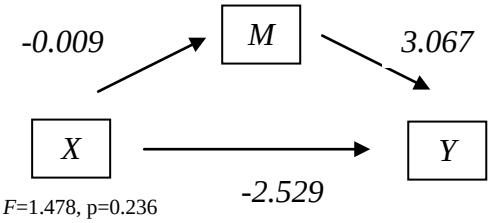
Perpetrator Age from Weapon Use



Model Summary: R^2=0.020, *F*=0.644, p=0.528

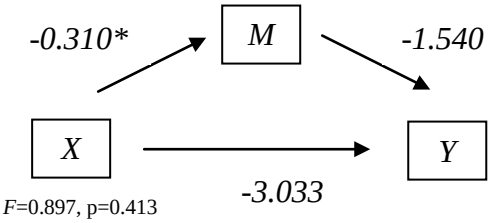
**p<0.05*

Figure C17. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Dangerous World IT (M).



Model Summary: R^2=0.044, *F*=1.478, p=0.236

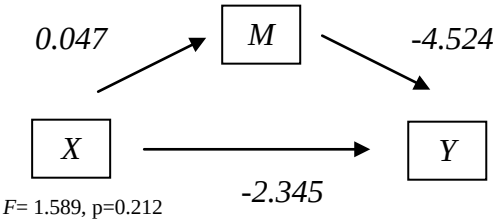
Figure C18. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Women as Sex Objects IT (M).



Model Summary: R^2=0.027, *F*=0.897, p=0.413

**p<0.05*

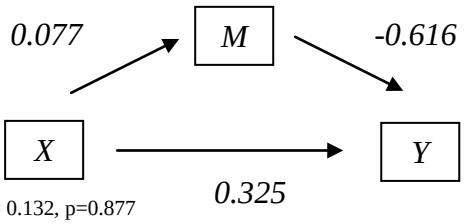
Figure C19. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Male Sex Drive Uncontrollable IT (M).



Model Summary: R^2=0.047, *F*= 1.589, p=0.212

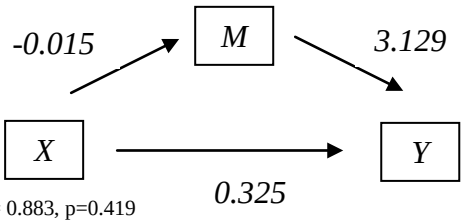
Figure C20. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Entitlement IT (M).

Perpetrator Age from Sexual Penetration



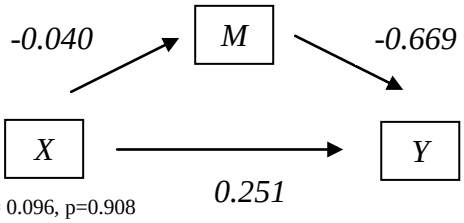
Model Summary: R^2=0.004, *F*= 0.132, p=0.877

Figure C21. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Dangerous World IT (M).



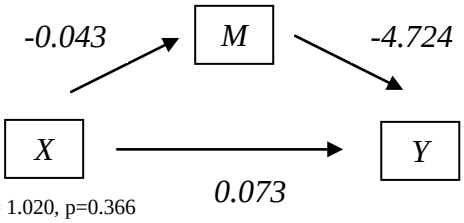
Model Summary: R^2=0.027, *F*= 0.883, p=0.419

Figure C22. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Women as Sex Objects IT (M).



Model Summary: R^2=0.003, *F*= 0.096, p=0.908

Figure C23. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Male Sex Drive Uncontrollable IT (M).



Model Summary: R^2=0.031, *F*= 1.020, p=0.366

Figure C24. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Entitlement IT (M).

Table C1. Indirect Effects of Level of Aggression on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.116	0.335	-0.347	-0.828	0.634	-0.832	0.632	-0.862	0.614
Women as Sex Objects	-0.133	0.228	-0.584	-0.854	0.496	-1.378	0.214	-1.455	0.199
Male Sex Drive Uncontrollable	0.056	0.164	0.342	-0.406	0.615	-0.220	0.872	-0.244	0.819
Entitlement	0.344	0.329	1.047	-0.185	1.143	-0.116	1.689	-0.113	1.752

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C2. Indirect Effects of Level of Injuries on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.043	0.296	-0.144	-0.565	0.679	-0.565	0.680	-0.614	0.600
Women as Sex Objects	-0.157	0.197	-0.080	-0.552	0.640	-0.668	0.488	-0.853	0.401
Male Sex Drive Uncontrollable	0.113	0.267	0.423	-0.517	0.643	-0.239	0.864	-0.251	0.854
Entitlement	0.195	0.258	0.755	-0.296	1.061	-0.189	1.364	-0.164	1.511

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C3. Indirect Effects of Offence Outcome on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.022	0.359	-0.061	-0.808	0.719	-0.950	0.609	-0.923	0.623
Women as Sex Objects	0.189	0.304	0.623	-0.528	1.168	-0.235	1.674	-0.238	1.650
Male Sex Drive Uncontrollable	-0.030	0.121	-0.245	-0.484	0.466	-0.782	0.240	-0.768	0.248
Entitlement	-0.285	0.418	-0.680	-1.380	0.456	-1.581	0.345	-1.560	0.355

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C4. Indirect Effects of Victim Age on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.001	0.003	0.188	-0.010	0.016	-0.011	0.015	-0.012	0.015
Women as Sex Objects	0.011	0.012	0.939	-0.012	0.052	-0.005	0.071	-0.005	0.070
Male Sex Drive Uncontrollable	0.003	0.008	0.373	-0.016	0.019	-0.009	0.030	-0.009	0.029
Entitlement	0.004	0.009	0.422	-0.011	0.020	-0.007	0.025	-0.006	0.027

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C5. Indirect Effects of a Weapon Being Used on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.025	0.697	-0.036	-1.330	1.154	-1.336	1.152	-1.370	1.129
Women as Sex Objects	-0.026	0.351	-0.075	-1.295	0.755	-1.232	0.823	-1.084	1.018
Male Sex Drive Uncontrollable	0.477	0.694	0.687	-0.779	1.836	-0.614	2.074	-0.645	2.073
Entitlement	-0.211	0.402	-0.524	-1.130	0.868	-1.745	0.442	-2.196	0.363

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C6. Indirect Effects of Sexual Penetration on Perpetrator Age through Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.047	0.122	-0.388	-0.348	0.384	-0.512	0.186	-0.651	0.158
Women as Sex Objects	-0.048	0.147	-0.328	-0.570	0.226	-0.590	0.216	-0.487	0.341
Male Sex Drive Uncontrollable	0.027	0.090	0.295	-0.202	0.361	-0.135	0.460	-0.156	0.418
Entitlement	0.204	0.211	0.971	-0.033	0.510	-0.011	0.545	-0.010	0.597

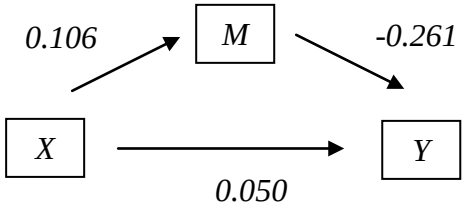
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C7. Total Effects of Offence Variables on Perpetrator Age (*c* path)

		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.187	1.307	-0.143	0.887
Level of Injuries	-2.064	1.005	-2.054	0.046
Offence Outcome	4.321	1.850	2.335	0.023
Victim Age	-0.015	0.051	-0.286	0.776
Weapon Used	-2.555	2.235	-1.143	0.257
Sexual Penetration	0.277	0.900	0.308	0.759

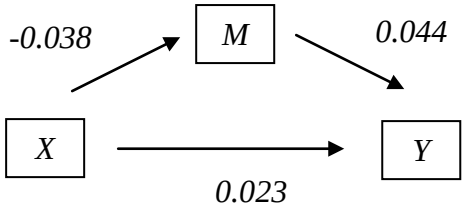
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Relationship Status from Level of Aggression Used



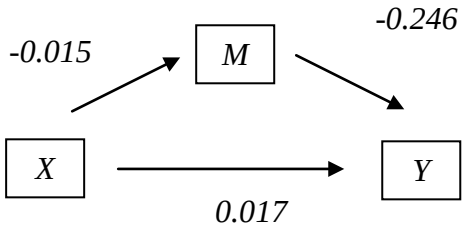
Regression Summary: -2LL=120.018, Model LL=0.550, McFadden=0.005, CoxSnell=0.006, Nagelkrk=0.008

Figure C25. Predicting Relationship Status (X) from Aggression (Y) through Dangerous World IT.



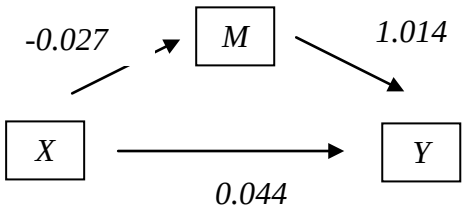
Regression Summary: -2LL=120.554, Model LL=0.013, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

Figure C26. Predicting Relationship Status (X) from Aggression (Y) through Women as Sex Objects IT.



Regression Summary: -2LL=120.284, Model LL=0.284, McFadden=0.002, CoxSnell=0.003, Nagelkrk=0.004

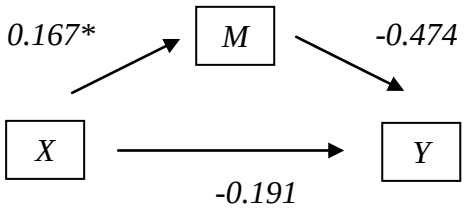
Figure C27. Predicting Relationship Status (X) from Aggression (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=119.576, Model LL=991, McFadden=0.008, CoxSnell=0.011, Nagelkrk=0.015

Figure C28. Predicting Relationship Status (X) from Aggression (Y) through Entitlement IT (M).

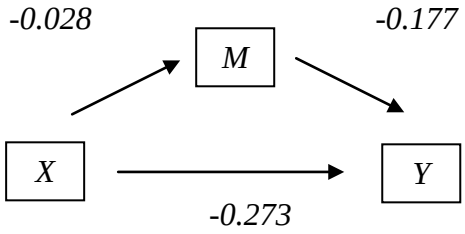
Relationship Status from Level of Injury



Regression Summary: -2LL=70.554, Model LL=2.443, McFadden=0.034, CoxSnell=0.043, Nagelkrk=0.059

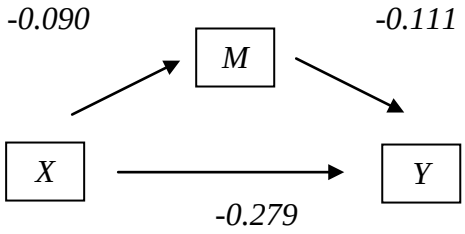
*p<0.05

Figure C29. Predicting Relationship Status (X) from Level of Injury (Y) through Dangerous World IT (M).



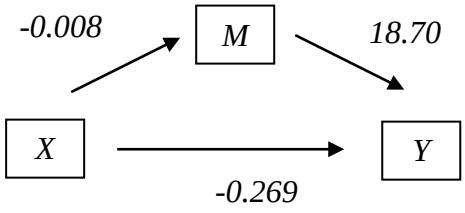
Regression Summary: -2LL=71.685, Model LL=1.312, McFadden=0.018, CoxSnell=0.023, Nagelkrk=0.032

Figure C30. Predicting Relationship Status (X) from Level of Injury (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=71.699, Model LL=1.298, McFadden=0.018, CoxSnell=0.023, Nagelkrk=0.031

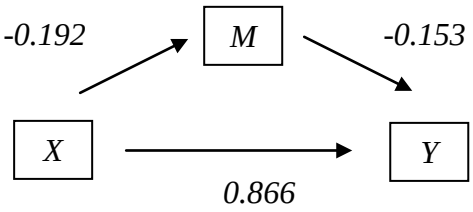
Figure C31. Predicting Relationship Status (X) from Level of Injury (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=68.090, Model LL=4.907, McFadden=0.067, CoxSnell=0.084, Nagelkrk=0.115

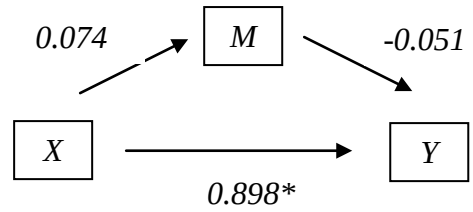
Figure C32. Predicting Relationship Status (X) from Level of Injury (Y) through Entitlement IT (M).

Relationship Status from Offence Outcome



Regression Summary: -2LL=116.424, Model LL=4.143, McFadden=0.034, CoxSnell=0.043, Nagelkrk=0.060

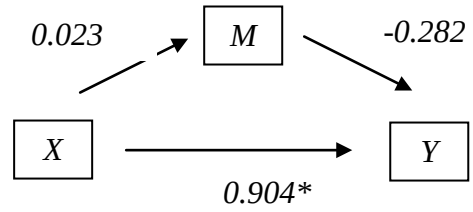
Figure C33. Predicting Relationship Status (X) from Offence Outcome (Y) through Dangerous World IT (M)



Regression Summary: -2LL=116.597, Model LL=3.971, McFadden=0.033, CoxSnell=0.041, Nagelkrk=0.057

* p=0.05

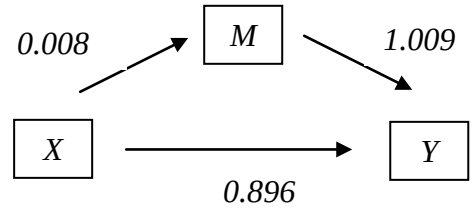
Figure C34. Predicting Relationship Status (X) from Offence Outcome (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=116.259, Model LL=4.309, McFadden=0.036, CoxSnell=0.045, Nagelkrk=0.062

*p=0.05

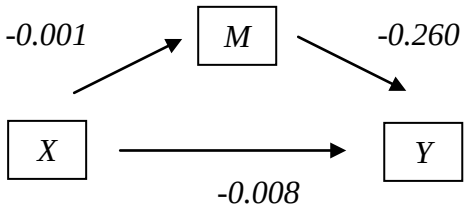
Figure C35. Predicting Relationship Status (X) from Offence Outcome (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=115.662, Model LL=4.906, McFadden=0.041, CoxSnell=0.051, Nagelkrk=0.070; *p=0.05

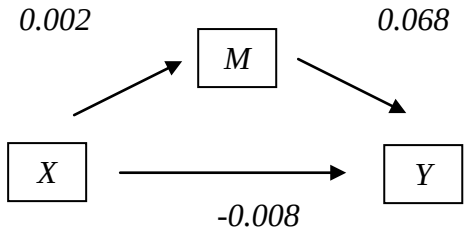
Figure C36. Predicting Relationship Status (X) from Offence Outcome (Y) through Entitlement IT (M).

Relationship Status from Victim Age



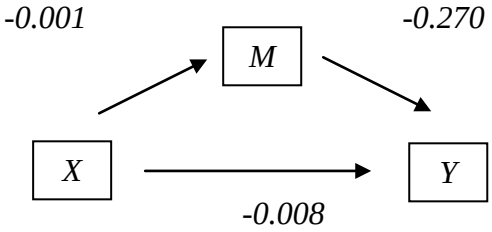
Regression Summary: -2LL=119.552, Model LL=1.016, McFadden=0.008, CoxSnell=0.011, Nagelkrk=0.015

Figure C37. Predicting Relationship Status (X) from Victim Age (Y) through Dangerous World IT (M).



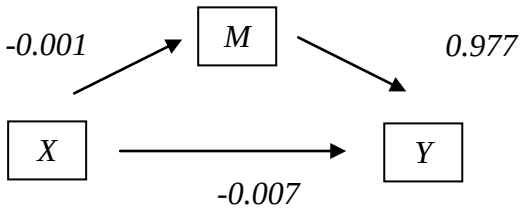
Regression Summary: -2LL=120.085, Model LL=0.483, McFadden=0.004, CoxSnell=0.005, Nagelkrk=0.007

Figure C38. Predicting Relationship Status (X) from Victim Age (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=119.772, Model LL=0.795, McFadden=0.007, CoxSnell=0.008, Nagelkrk=0.012

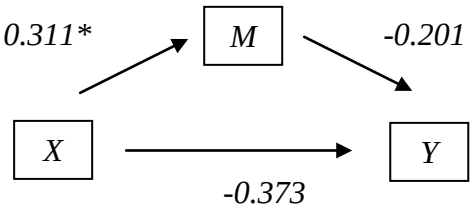
Figure C39. Predicting Relationship Status (X) from Victim Age (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=119.187, Model LL=1.381, McFadden=0.011, CoxSnell=0.015, Nagelkrk=0.020

Figure C40. Predicting Relationship Status (X) from Victim Age (Y) through Entitlement IT (M).

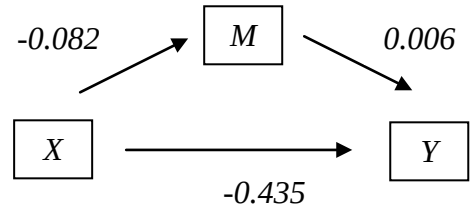
Relationship Status from Weapon Use



Regression Summary: -2LL=119.580, Model LL=0.988, McFadden=0.008 CoxSnell=0.011, Nagelkrk=0.015

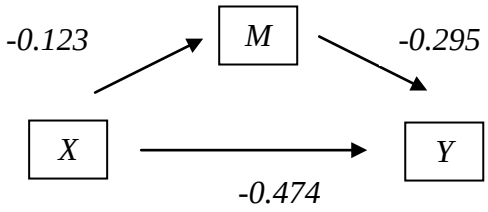
**p=0.05*

Figure C41. Predicting Relationship Status (X) from Weapon Being Used (Y) through Dangerous World IT (M).



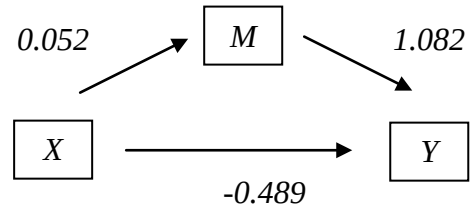
Regression Summary: -2LL=119.894, Model LL=0.674, McFadden=0.006, CoxSnell=0.007, Nagelkrk=0.010

Figure C42. Predicting Relationship Status (X) from Weapon Being Used (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=119.504, Model LL=1.063, McFadden=0.009, CoxSnell=0.011, Nagelkrk=0.016

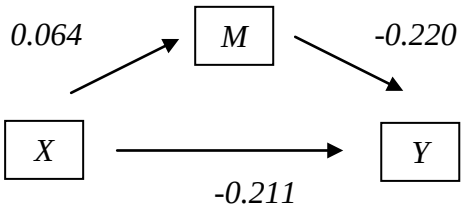
Figure C43. Predicting Relationship Status (X) from Weapon Being Used (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=118.774, Model LL=1.793, McFadden=0.015, CoxSnell=0.019, Nagelkrk=0.026

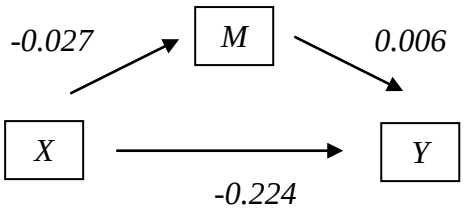
Figure C44. Predicting Relationship Status (X) from Weapon Being Used (Y) through Entitlement IT (M).

Relationship Status from Sexual Penetration



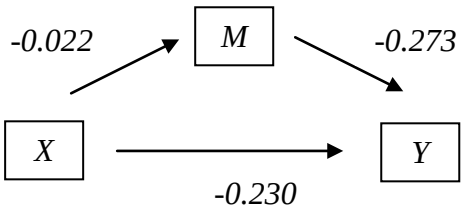
Regression Summary: -2LL=119.116, Model LL=1.452, McFadden=0.012, CoxSnell=0.015, Nagelkrk=0.021

Figure C45. Predicting Relationship Status (X) from Sexual Penetration (Y) through Dangerous World IT (M).



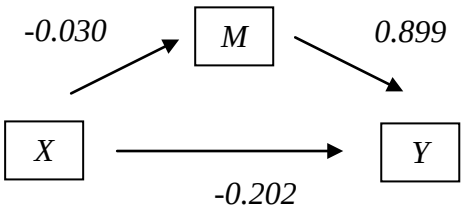
Regression Summary: -2LL=119.502, Model LL=1.066, McFadden=0.009, CoxSnell=0.011, Nagelkrk=0.016

Figure C46. Predicting Relationship Status (X) from Sexual Penetration (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=119.166, Model LL=1.402, McFadden=0.012, CoxSnell=0.015, Nagelkrk=0.021

Figure C47. Predicting Relationship Status (X) from Sexual Penetration (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=118.757, Model LL=1.821, McFadden=0.015, CoxSnell=0.019, Nagelkrk=0.027

Figure C48. Predicting Relationship Status (X) from Sexual Penetration (Y) through Entitlement IT (M).

Table C8. Indirect Effects of Level of Aggression on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.028	0.057	-0.160	0.074	-0.197	0.051	-0.216	0.042
Women as Sex Objects	-0.002	0.047	-0.079	0.093	-0.117	0.063	-0.110	0.068
Male Sex Drive Uncontrollable	0.004	0.035	-0.068	0.081	-0.039	0.119	-0.039	0.119
Entitlement	-0.027	0.343	-0.944	0.662	-1.461	0.364	-1.010	0.640

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C9. Indirect Effects of Level of Injury on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.079	0.106	-0.328	0.096	-0.337	0.088	-0.354	0.081
Women as Sex Objects	0.005	0.206	-0.554	0.146	-0.083	0.287	-0.087	0.250
Male Sex Drive Uncontrollable	0.010	0.092	-0.140	0.180	-0.122	0.204	-0.123	0.201
Entitlement	-0.149	0.595	-1.366	0.965	-1.391	0.953	-1.555	0.874

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C10. Indirect Effects of Offence Outcome on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.029	0.099	-0.130	0.291	-0.104	0.332	-0.090	0.363
Women as Sex Objects	-0.004	0.073	-0.182	0.121	-0.200	0.111	-0.200	0.111
Male Sex Drive Uncontrollable	-0.006	0.058	-0.127	0.119	-0.179	0.079	-0.165	0.083
Entitlement	0.008	0.583	-1.676	1.177	-0.688	1.818	-0.221	2.814

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C11. Indirect Effects of Victim Age on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.000	0.002	-0.002	0.004	-0.002	0.005	-0.002	0.005
Women as Sex Objects	0.000	0.003	-0.003	0.006	-0.003	0.005	-0.004	0.005
Male Sex Drive Uncontrollable	0.000	0.001	-0.003	0.004	-0.001	0.005	-0.002	0.005
Entitlement	-0.001	0.013	-0.042	0.001	-0.036	0.002	-0.027	0.026

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C12. Indirect Effects of Weapon Used on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.062	0.154	-0.440	0.184	-0.581	0.116	-0.656	0.099
Women as Sex Objects	-0.001	0.128	-0.203	0.127	-0.170	0.153	-0.156	0.165
Male Sex Drive Uncontrollable	0.036	0.090	-0.108	0.272	-0.062	0.361	-0.069	0.347
Entitlement	0.056	1.051	-0.730	3.594	-0.699	3.720	-1.398	2.655

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C13. Indirect Effects of Sexual Penetration on Relationship Status through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.014	0.043	-0.093	0.093	-0.175	0.036	-0.220	0.027
Women as Sex Objects	-0.000	0.037	-0.087	0.032	-0.052	0.050	-0.048	0.056
Male Sex Drive Uncontrollable	0.006	0.031	-0.063	0.072	-0.030	0.107	-0.036	0.094
Entitlement	-0.027	0.262	-0.843	0.025	-0.744	0.032	-0.572	0.332

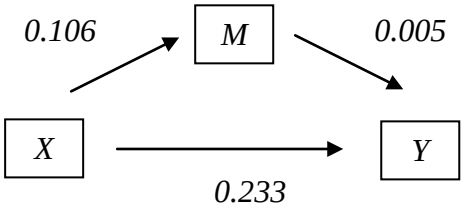
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C14. Total Effects of Offence Variables on Relationship Status (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.021	0.265	0.079	0.937	0.006
Level of Injuries	-0.268	0.243	-1.105	0.269	1.220
Offence Outcome	0.894	0.451	1.982	0.047	3.093
Victim Age	-0.008	0.011	-0.686	0.493	0.471
Weapon Used	-0.435	0.527	-0.827	0.408	0.684
Sexual Penetration	-0.224	0.215	-1.040	0.298	1.082

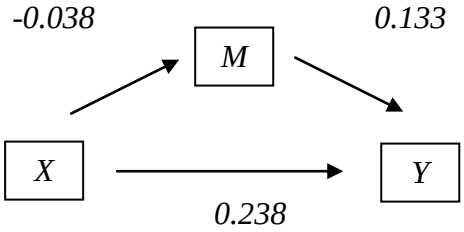
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Previous Convictions from Level of Aggression Used



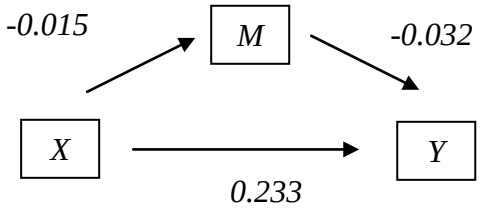
Regression Summary: -2LL=94.040, Model LL=0.588, McFadden=0.006, CoxSnell=0.006, Nagelkrk=0.010

Figure C49. Predicting Previous Convictions (X) from Aggression (Y) through Dangerous World IT (M).



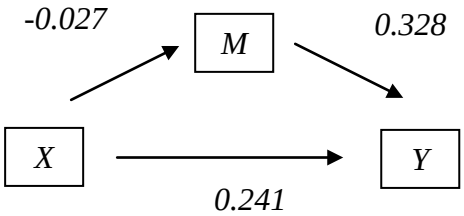
Regression Summary: -2LL=93.995, Model LL=0.632, McFadden=0.007, CoxSnell=0.007, Nagelkrk=0.011

Figure C50. Predicting Previous Convictions (X) from Aggression (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=94.037, Model LL=0.591, McFadden=0.006, CoxSnell=0.006, Nagelkrk=0.010

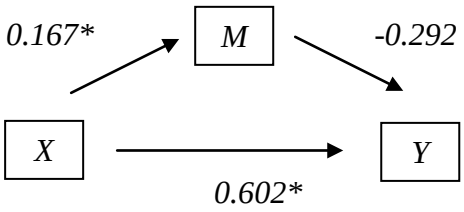
Figure C51. Predicting Previous Convictions (X) from Aggression (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=93.951, Model LL=0.676, McFadden=0.007, CoxSnell=0.007, Nagelkrk=0.011

Figure C52. Predicting Previous Convictions (X) from Aggression (Y) through Entitlement IT (M).

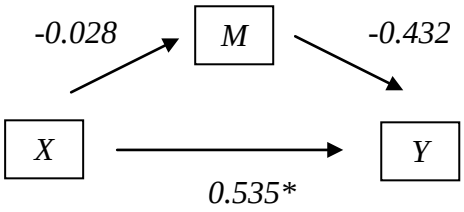
Previous Convictions from Level of Injury



Regression Summary: -2LL=60.031, Model LL=5.054, McFadden=0.078, CoxSnell=0.086, Nagelkrk=0.126

*p<0.05

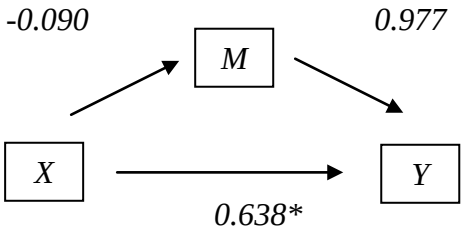
Figure C53. Predicting Previous Convictions (X) from Level of Injury (Y) through Dangerous World IT (M).



Regression Summary: -2LL=60.142, Model LL=4.943, McFadden=0.076, CoxSnell=0.085, Nagelkrk=0.123

* p<0.05

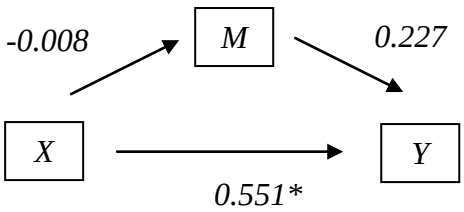
Figure C54. Predicting Previous Convictions (X) from Level of Injury (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=58.432, Model LL=6.653, McFadden=0.1.02, CoxSnell=0.112, Nagelkrk=0.163

*p<0.05

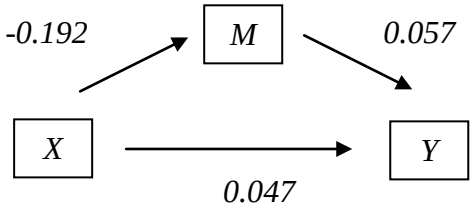
Figure C55. Predicting Previous Convictions (X) from Level of Injury (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=60.357, Model LL=4.728, McFadden=0.073, CoxSnell=0.081, Nagelkrk=0.118; *p<0.05

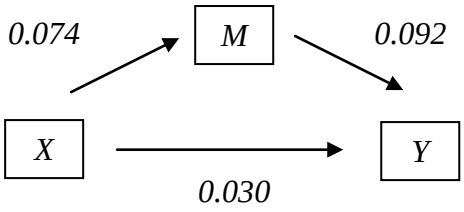
Figure C56. Predicting Previous Convictions (X) from Level of Injury (Y) through Entitlement IT (M).

Previous Convictions from Offence Outcome



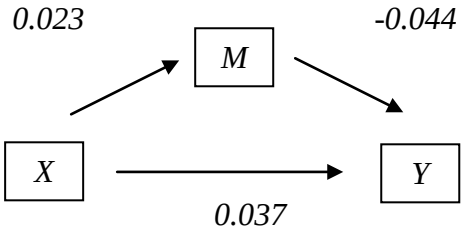
Regression Summary: -2LL=94.605, Model LL=0.022, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

Figure C57. Predicting Previous Convictions (X) from Offence Outcome (Y) through Dangerous World IT (M).



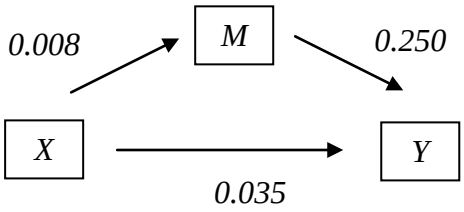
Regression Summary: -2LL=94.601, Model LL=0.026, McFadden=0.000, CoxSnell=0.000 Nagelkrk=0.000

Figure C58. Predicting Previous Convictions (X) from Offence Outcome (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=94.617, Model LL=0.011, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

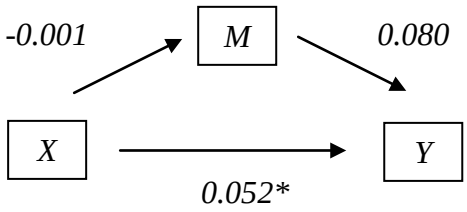
Figure C59. Predicting Previous Convictions (X) from Offence Outcome (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=94.571, Model LL=0.056, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure C60. Predicting Previous Convictions (X) from Offence Outcome (Y) through Entitlement IT (M).

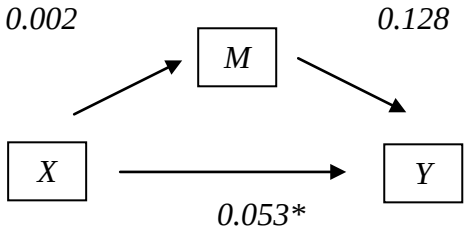
Previous Convictions from Victim Age



Regression Summary: -2LL=87.137, Model LL=7.490, McFadden=0.079, CoxSnell=0.077, Nagelkrk=0.121

*p<0.05

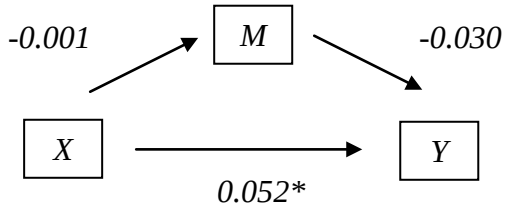
Figure C61. Predicting Previous Convictions (X) from Victim Age (Y) through Dangerous World IT (M).



Regression Summary: -2LL=87.136, Model LL=7.491, McFadden=0.079, CoxSnell=0.077 Nagelkrk=0.121

*p<0.05

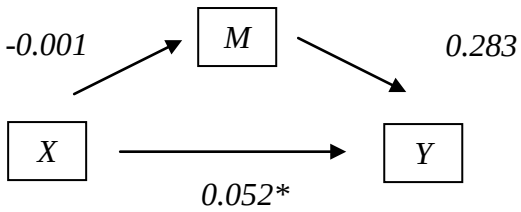
Figure C62. Predicting Previous Convictions (X) from Victim Age (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=87.171, Model LL=7.456, McFadden=0.079, CoxSnell=0.076, Nagelkrk=0.120

*p<0.05

Figure C63. Predicting Previous Convictions (X) from Victim Age (Y) through Male Sex Drive Uncontrollable IT (M).

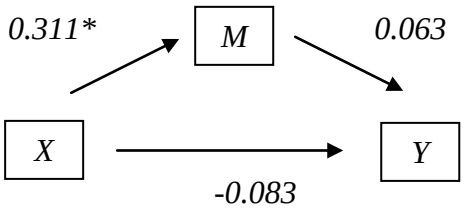


Regression Summary: -2LL=127.414, Model LL=3.778, McFadden=0.029, CoxSnell=0.036, Nagelkrk=0.050

*p<0.05

Figure C64. Predicting Previous Convictions (X) from Victim Age (Y) through Entitlement IT (M).

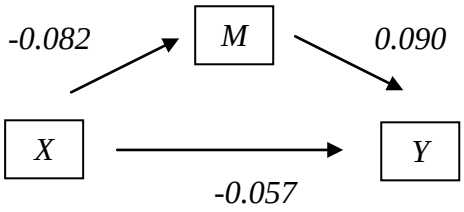
Previous Convictions from Weapon Use



Regression Summary: -2LL=94.596, Model LL=0.031, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.001

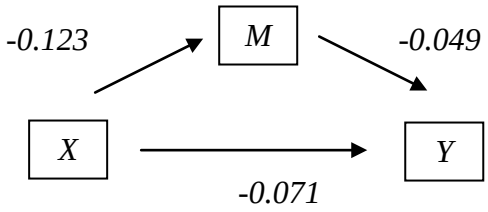
**p=0.05*

Figure C65. Predicting Previous Convictions (X) from Weapon Being Used (Y) through Dangerous World IT (M).



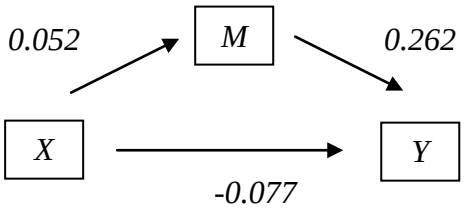
Regression Summary: -2LL=94.596, Model LL=0.031, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.001

Figure C66. Predicting Previous Convictions (X) from Weapon Being Used (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=94.609, Model LL=0.018, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

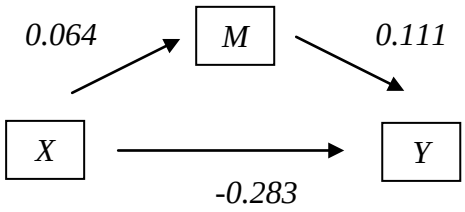
Figure C67. Predicting Previous Convictions (X) from Weapon Being Used (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=94.561, Model LL=0.067, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

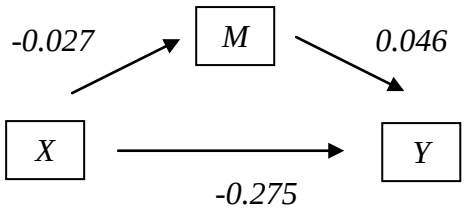
Figure C68. Predicting Previous Convictions (X) from Weapon Being Used (Y) through Entitlement IT (M).

Previous Convictions from Sexual Penetration



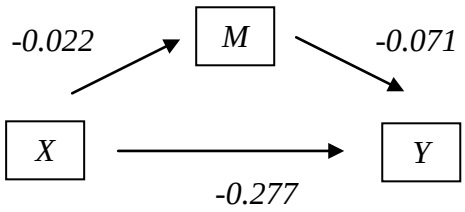
Regression Summary: -2LL=93.275, Model LL=1.353, McFadden=0.014, CoxSnell=0.014 Nagelkrk=0.023

Figure C69. Predicting Previous Convictions (X) from Sexual Penetration (Y) through Dangerous World IT (M).



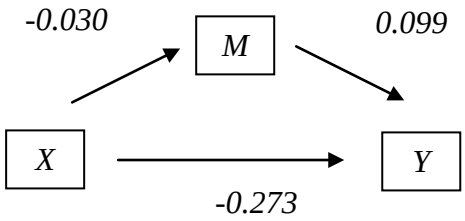
Regression Summary: -2LL=93.332, Model LL=1.296, McFadden=0.014, CoxSnell=0.014, Nagelkrk=0.022

Figure C70. Predicting Previous Convictions (X) from Sexual Penetration (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=93.321, Model LL=1.307, McFadden=0.0.14, CoxSnell=0.014, Nagelkrk=0.022

Figure C71. Predicting Previous Convictions (X) from Sexual Penetration (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=93.329, Model LL=1.298, McFadden=0.014, CoxSnell=0.014, Nagelkrk=0.022

Figure C72. Predicting Previous Convictions (X) from Sexual Penetration (Y) through Entitlement IT (M).

Table C15. Indirect Effects of Level of Aggression on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.001	0.059	-0.105	0.127	-0.105	0.125	-0.106	0.124
Women as Sex Objects	-0.005	0.161	-0.140	0.090	-0.709	0.053	-0.216	0.062
Male Sex Drive Uncontrollable	0.001	0.060	-0.071	0.090	-0.075	0.086	-0.070	0.092
Entitlement	-0.009	0.504	-1.669	0.268	-1.460	0.369	-1.046	0.869

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C16. Indirect Effects of Level of Injury on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.049	0.117	-0.291	0.142	-0.288	0.143	-0.249	0.188
Women as Sex Objects	0.012	0.208	-0.052	0.587	-0.044	0.741	-0.046	0.702
Male Sex Drive Uncontrollable	-0.088	0.273	-0.441	0.050	-0637	0.030	-0.488	0.043
Entitlement	-0.002	0.366	-1.198	0.302	-0.444	0.800	-0.227	1.249

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C17. Indirect Effects of Offence Outcome on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.011	0.115	-0.306	0.165	-0.345	0.146	-0.337	0.150
Women as Sex Objects	0.007	0.222	-0.187	0.198	-0.112	0.822	-0.122	0.325
Male Sex Drive Uncontrollable	-0.001	0.120	-0.113	0.151	-0.138	0.126	-0.153	0.116
Entitlement	0.002	0.583	-0.561	1.794	-1.446	0.989	-2.673	0.543

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C18. Indirect Effects of Victim Age on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.000	0.002	-0.004	0.003	-0.004	0.003	-0.004	0.003
Women as Sex Objects	0.000	0.009	-0.005	0.007	-0.003	0.030	-0.004	0.010
Male Sex Drive Uncontrollable	0.000	0.003	-0.004	0.004	-0.003	0.004	-0.003	0.004
Entitlement	-0.000	0.010	-0.031	0.017	-0.034	0.014	-0.023	0.032

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C19. Indirect Effects of Weapon Used on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.020	0.171	-0.214	0.487	-0.199	0.530	-0.203	0.519
Women as Sex Objects	-0.007	0.243	-0.248	0.191	-0.582	0.132	-0.380	0.145
Male Sex Drive Uncontrollable	0.006	0.175	-0.208	0.244	-0.199	0.257	-0.187	0.272
Entitlement	0.014	0.695	-1.407	1.881	-0.280	3.701	-0.398	3.379

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C20. Indirect Effects of Sexual Penetration on Previous Convictions through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.007	0.050	-0.081	0.124	-0.049	0.185	-0.051	0.171
Women as Sex Objects	-0.001	0.142	-0.118	0.055	-0.119	0.055	-0.094	0.069
Male Sex Drive Uncontrollable	0.002	0.054	-0.070	0.085	-0.064	0.090	-0.066	0.086
Entitlement	-0.003	0.265	-0.812	0.056	-0.767	0.063	-0.601	0.259

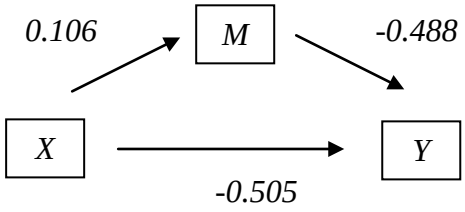
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C21. Total Effects of Offence Variables on Previous Convictions (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.233	0.300	0.776	0.438	0.602
Level of Injuries	0.548	0.260	2.107	0.035	4.441
Offence Outcome	0.036	0.533	0.068	0.946	0.005
Victim Age	0.052	0.024	2.163	0.031	4.679
Weapon Used	-0.065	0.633	-0.102	0.919	0.010
Sexual Penetration	-0.276	0.236	-1.170	0.242	1.370

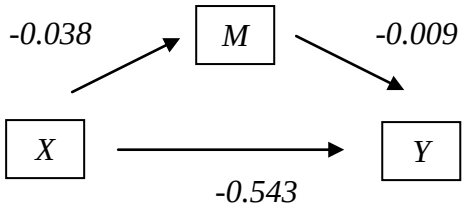
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Lives Alone from Level of Aggression Used



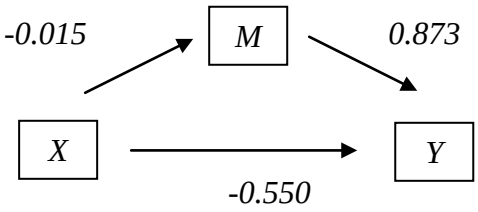
Regression Summary: -2LL=84.914, Model LL=3.950, McFadden=0.044, CoxSnell=0.041, Nagelkrk=0.067

Figure C73. Predicting Lives Alone (X) from Aggression (Y) through Dangerous World IT (M).



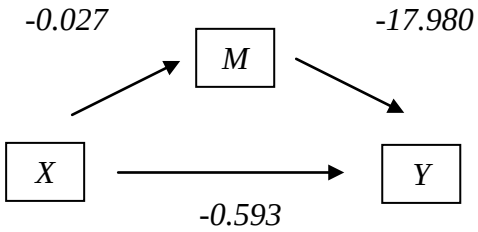
Regression Summary: -2LL=85.754, Model LL=3.110, McFadden=0.035, CoxSnell=0.033, Nagelkrk=0.053

Figure C74. Predicting Lives Alone (X) from Aggression (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=83.370, Model LL=53.494, McFadden=0.062, CoxSnell=0.057, Nagelkrk=0.093

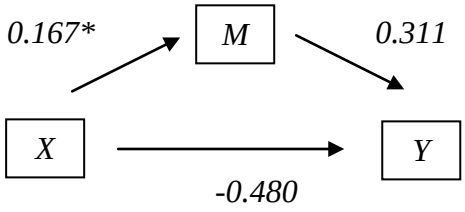
Figure C75. Predicting Lives Alone (X) from Aggression (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=82.786, Model LL=6.078, McFadden=0.068, CoxSnell=0.063, Nagelkrk=0.102

Figure C76. Predicting Lives Alone (X) from Aggression (Y) through Entitlement IT (M).

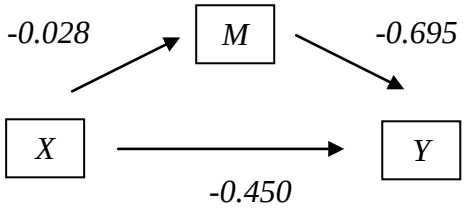
Lives Alone from Level of Injury



Regression Summary: -2LL=50.068, Model LL=2.485, McFadden=0.047, CoxSnell=0.043, Nagelkrk=0.071

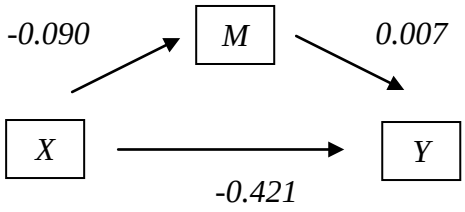
*$p<0.05$

Figure C77. Predicting Lives Alone (X) from Level of Injury (Y) through Dangerous World IT (M).



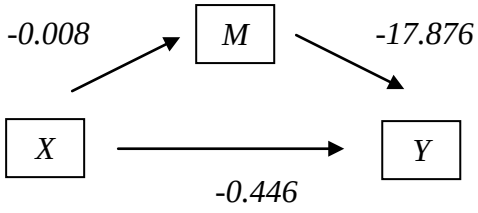
Regression Summary: -2LL=50.001, Model LL=2.552, McFadden=0.049, CoxSnell=0.045, Nagelkrk=0.073

Figure C78. Predicting Lives Alone (X) from Level of Injury (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=50.398, Model LL=2.154, McFadden=0.041, CoxSnell=0.038, Nagelkrk=0.062

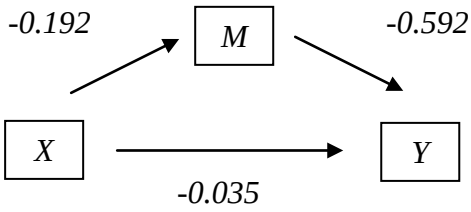
Figure C79. Predicting Lives Alone (X) from Level of Injury (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=48.581, Model LL=3.971, McFadden=0.076, CoxSnell=0.069, Nagelkrk=0.113

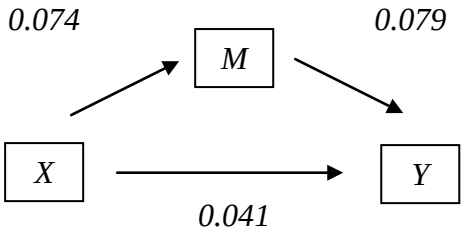
Figure C80. Predicting Lives Alone (X) from Level of Injury (Y) through Entitlement IT (M).

Lives Alone from Offence Outcome



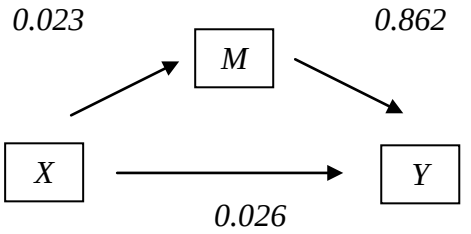
Regression Summary: -2LL=87.550, Model LL=1.314, McFadden=0.015, CoxSnell=0.014, Nagelkrk=0.023

Figure C81. Predicting Lives Alone (X) from Offence Outcome (Y) through Dangerous World IT (M).



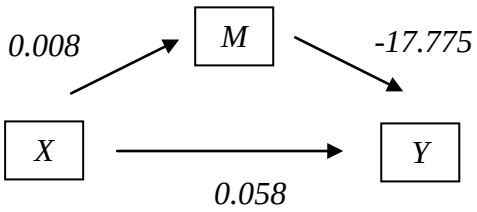
Regression Summary: -2LL=88.842, Model LL=0.022, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

Figure C82. Predicting Lives Alone (X) from Offence Outcome (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=86.441, Model LL=2.423, McFadden=0.027, CoxSnell=0.025, Nagelkrk=0.042

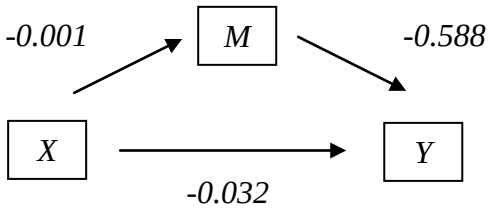
Figure C83. Predicting Lives Alone (X) from Offence Outcome (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=86.371, Model LL=2.493, McFadden=0.028, CoxSnell=0.026, Nagelkrk=0.043

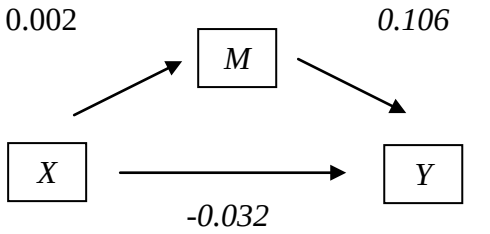
Figure C84. Predicting Lives Alone (X) from Offence Outcome (Y) through Entitlement IT (M).

Lives Alone from Victim Age



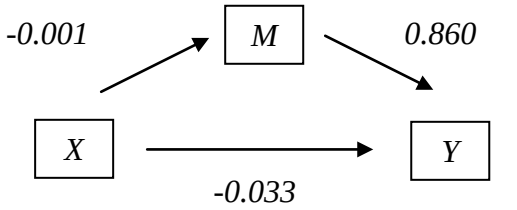
Regression Summary: -2LL=84.164, Model LL=4.700, McFadden=0.053, CoxSnell=0.049, Nagelkrk=0.080

Figure C85. Predicting Lives Alone (X) from Victim Age (Y) through Dangerous World IT (M).



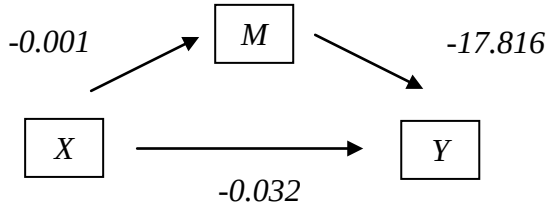
Regression Summary: -2LL=85.493, Model LL=3.371, McFadden=0.038, CoxSnell=0.035, Nagelkrk=0.058

Figure C86. Predicting Lives Alone (X) from Victim Age (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=83.189, Model LL=5.676, McFadden=0.064, CoxSnell=0.059, Nagelkrk=0.096

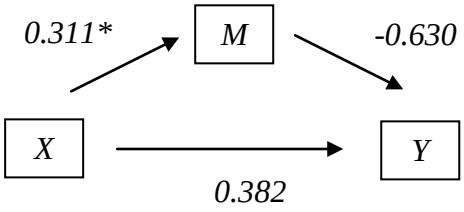
Figure C87. Predicting Lives Alone (X) from Victim Age (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=82.929, Model LL=5.935, McFadden=0.067, CoxSnell=0.061, Nagelkrk=0.100

Figure C88. Predicting Lives Alone (X) from Victim Age (Y) through Entitlement IT (M).

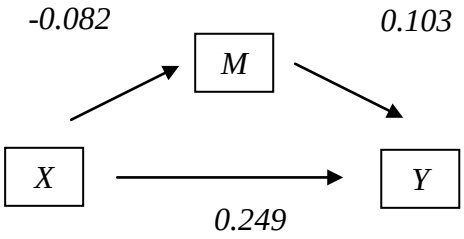
Lives Alone from Weapon Use



Regression Summary: -2LL=87.226, Model LL=1.638, McFadden=0.018, CoxSnell=0.017, Nagelkrk=0.028

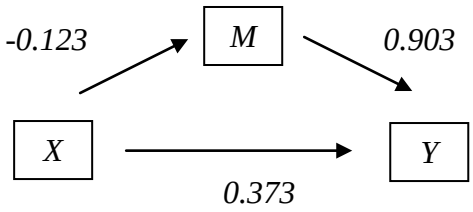
**p=0.05*

Figure C89. Predicting Lives Alone (X) from Weapon Being Used (Y) through Dangerous World IT.



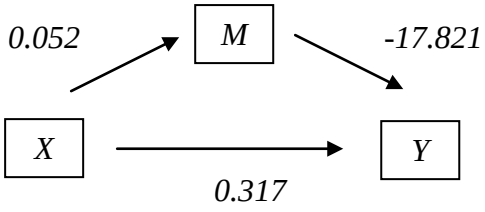
Regression Summary: -2LL=88.701, Model LL=0.163, McFadden=0.002, CoxSnell=0.002, Nagelkrk=0.003

Figure C90. Predicting Lives Alone (X) from Weapon Being Used (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=86.132, Model LL=2.733, McFadden=0.031, CoxSnell=0.029, Nagelkrk=0.047

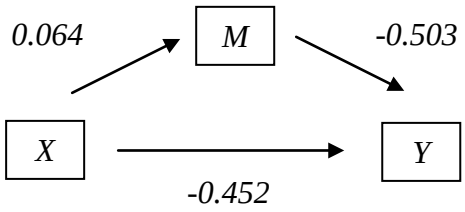
Figure C91. Predicting Lives Alone (X) from Weapon Being Used (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=86.151, Model LL=2.713, McFadden=0.031, CoxSnell=0.029, Nagelkrk=0.047

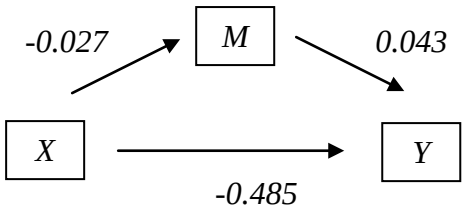
Figure C92. Predicting Lives Alone (X) from Weapon Being Used (Y) through Entitlement IT (M).

Lives Alone from Sexual Penetration



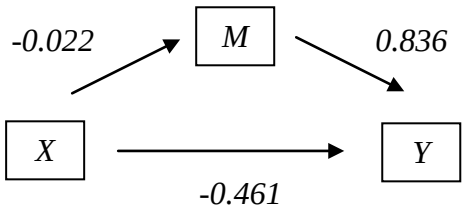
Regression Summary: -2LL=85.934, Model LL=2.931, McFadden=0.033, CoxSnell=0.031, Nagelkrk=0.050

Figure C93. Predicting Lives Alone (X) from Sexual Penetration (Y) through Dangerous World IT (M).



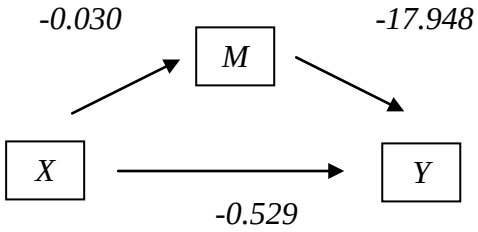
Regression Summary: -2LL=86.913, Model LL=1.951, McFadden=0.022, CoxSnell=0.021, Nagelkrk=0.034

Figure C94. Predicting Lives Alone (X) from Sexual Penetration (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=84.685, Model LL=4.179, McFadden=0.047, CoxSnell=0.044, Nagelkrk=0.071

Figure C95. Predicting Lives Alone (X) from Sexual Penetration (Y) through Male Sex Drive Uncontrollable IT (M)



Regression Summary: -2LL=84.043, Model LL=4.822, McFadden=0.054, CoxSnell=0.050, Nagelkrk=0.082

Figure C96. Predicting Lives Alone (X) from Sexual Penetration (Y) through Entitlement IT (M).

Table C22. Indirect Effects of Level of Aggression on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.052	0.144	-0.297	0.064	-0.385	0.037	-0.366	0.041
Women as Sex Objects	0.000	0.150	-0.118	0.130	-0.104	0.157	-0.127	0.124
Male Sex Drive Uncontrollable	-0.013	0.066	-0.163	0.107	-0.208	0.077	-0.211	0.074
Entitlement	0.478	0.658	-0.613	1.919	-0.579	2.028	-0.484	2.313

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C23. Indirect Effects of Level of Injury on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.052	0.248	-0.181	0.393	-0.181	0.395	-0.223	0.349
Women as Sex Objects	0.020	0.494	-1.011	1.385	-0.546	1.942	-1.099	1.336
Male Sex Drive Uncontrollable	-0.001	0.299	-0.204	0.333	-0.229	0.291	-0.250	0.261
Entitlement	0.143	0.581	-0.903	1.403	-0886	1.478	-0.807	1.609

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C24. Indirect Effects of Offence Outcome on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.114	0.288	-0.087	0.718	-0.047	1.125	-0.051	1.012
Women as Sex Objects	0.006	0.269	-0.228	0.181	-0.154	0.228	-0.135	0.266
Male Sex Drive Uncontrollable	0.019	0.133	-0.202	0.241	-0.152	0.318	-0.158	0.311
Entitlement	-0.139	0.942	-1.903	1.778	-1.782	1.902	-1.693	2.007

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C25. Indirect Effects of Victim Age on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.001	0.005	-0.005	0.008	-0.004	0.010	-0.004	0.011
Women as Sex Objects	0.000	0.009	-0.006	0.006	-0.004	0.008	-0.003	0.008
Male Sex Drive Uncontrollable	-0.001	0.003	-0.008	0.004	-0.009	0.002	-0.009	0.003
Entitlement	0.009	0.017	-0.025	0.043	-0.025	0.043	-0.024	0.044

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C26. Indirect Effects of Weapon Used on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.196	0.411	-1.025	0.101	-1.351	0.062	-1.337	0.062
Women as Sex Objects	-0.008	0.332	-0.188	0.275	-0.297	0.144	-0.381	0.123
Male Sex Drive Uncontrollable	-0.111	0.153	-0.448	0.127	-0.561	0.075	-0.520	0.087
Entitlement	-0.925	1.395	-4.033	1.368	-4.355	1.222	-5.200	1.032

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C27. Indirect Effects of Sexual Penetration on Lives Alone through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.032	0.088	-0.202	0.051	-0.278	0.026	-0.254	0.030
Women as Sex Objects	-0.001	0.090	-0.065	0.089	-0.083	0.071	-0.094	0.061
Male Sex Drive Uncontrollable	-0.018	0.073	-0.148	0.081	-0.183	0.059	-0.160	0.069
Entitlement	0.539	0.235	0.166	1.080	0.178	1.131	0.202	1.219

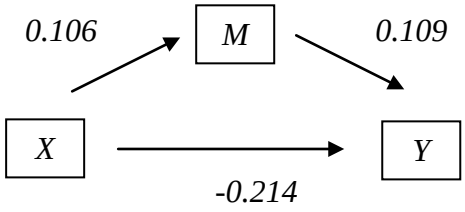
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C28. Total Effects of Offence Variables on Lives Alone (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.543	0.304	-1.787	0.074	3.1922
Level of Injuries	-0.422	0.291	-1.450	0.147	2.103
Offence Outcome	0.047	0.560	0.083	0.934	0.007
Victim Age	-0.032	0.020	-1.603	0.109	2.571
Weapon Used	0.240	0.640	0.376	0.707	0.141
Sexual Penetration	-0.486	0.406	-1.195	0.232	1.429

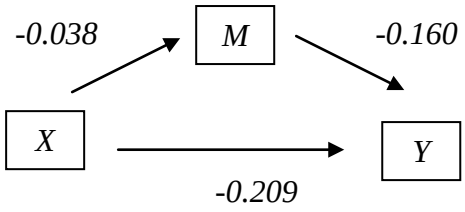
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Employed from Level of Aggression Used



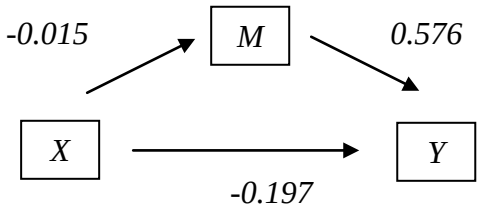
Regression Summary: -2LL=126139, Model LL=0.704, McFadden=0.006, CoxSnell=0.008, Nagelkrk=0.010

Figure C97. Predicting Employed (X) from Aggression (Y) through Dangerous World IT (M).



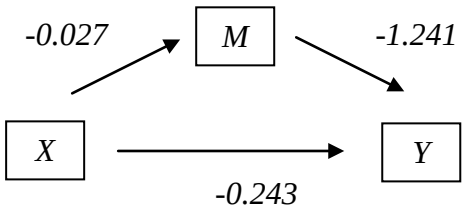
Regression Summary: -2LL=126.136, Model LL=0.707, McFadden=0.006 CoxSnell=0.008, Nagelkrk=0.010

Figure C98. Predicting Employed (X) from Aggression (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=124.713, Model LL=2.130, McFadden=0.017, CoxSnell=0.022, Nagelkrk=0.030

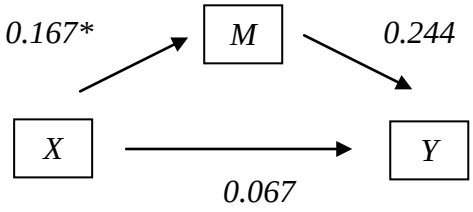
Figure C99. Predicting Employed (X) from Aggression (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=124.208, Model LL=2.635, McFadden=0.021, CoxSnell=0.028, Nagelkrk=0.037

Figure C100. Predicting Employed (X) from Aggression (Y) through Entitlement IT (M).

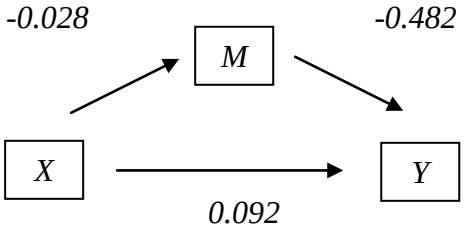
Employed from Level of Injury



Regression Summary: -2LL=74.525, Model LL=0.516, McFadden=0.007, CoxSnell=0.009, Nagelkrk=0.012

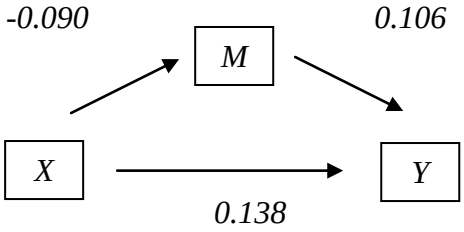
* $p<0.05$

Figure C101. Predicting Employed (X) from Level of Injury (Y) through Dangerous World IT (M).



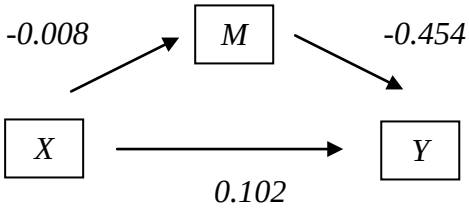
Regression Summary: -2LL=74.439, Model LL=0.602, McFadden=0.008 CoxSnell=0.011, Nagelkrk=0.015

Figure C102. Predicting Employed (X) from Level of Injury (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=74.453, Model LL=0.588, McFadden=0.008, CoxSnell=0.010, Nagelkrk=0.014

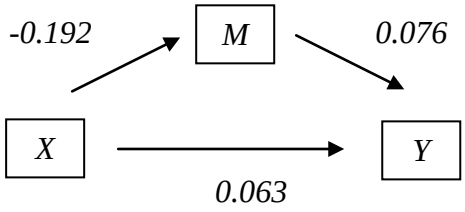
Figure C103. Predicting Employed (X) from Level of Injury (Y) through Male Sex Drive Uncontrollable IT (M.



Regression Summary: -2LL=74.638, Model LL=0.403, McFadden=0.005, CoxSnell=0.007, Nagelkrk=0.010

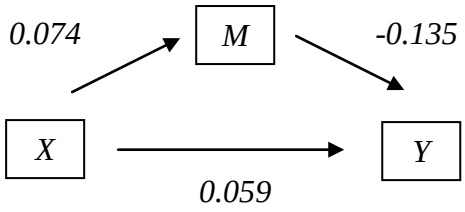
Figure C104. Predicting Employed (X) from Level of Injury (Y) through Entitlement IT (M).

Employed from Offence Outcome



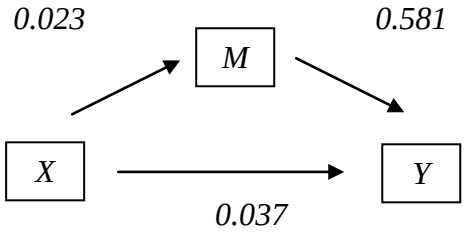
Regression Summary: -2LL=126.784, Model LL=0.060, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure C105. Predicting Employed (X) from Offence Outcome (Y) through Dangerous World IT (M).



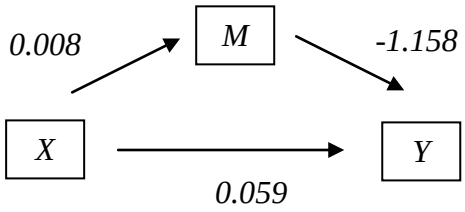
Regression Summary: -2LL=126.759, Model LL=0.084, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure C106. Predicting Employed (X) from Offence Outcome (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=125.271, Model LL=1.573, McFadden=0.012, CoxSnell=0.017, Nagelkrk=0.022

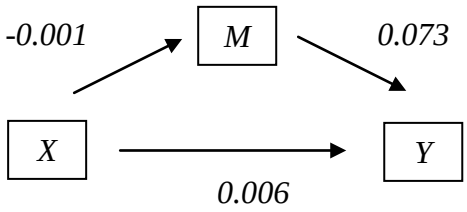
Figure C107. Predicting Employed (X) from Offence Outcome (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=125.029, Model LL=1.815, McFadden=0.014, CoxSnell=0.019, Nagelkrk=0.026

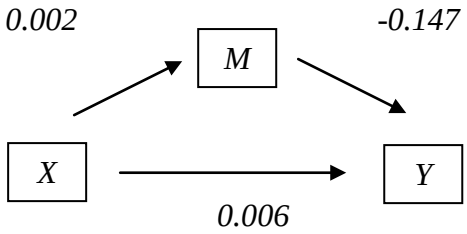
Figure C108. Predicting Employed (X) from Offence Outcome (Y) through Entitlement IT (M).

Employed from Victim Age



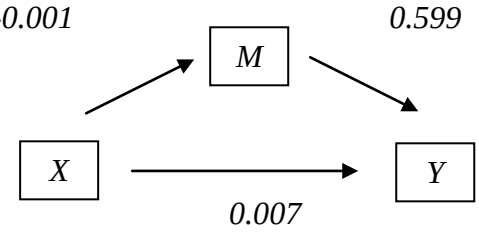
Regression Summary: -2LL=126.542, Model LL=0.302, McFadden=0.002, CoxSnell=0.003, Nagelkrk=0.004

Figure C109. Predicting Employed (X) from Victim Age (Y) through Dangerous World IT (M).



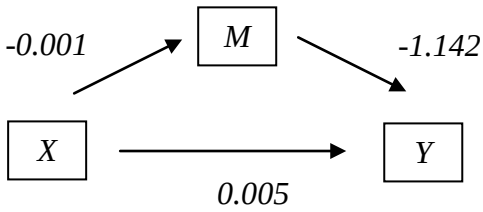
Regression Summary: -2LL=126.502 Model LL=0.342, McFadden=0.003, CoxSnell=0.004, Nagelkrk=0.005

Figure C110. Predicting Employed (X) from Victim Age (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=124.939, Model LL=1.904, McFadden=0.015, CoxSnell=0.020, Nagelkrk=0.027

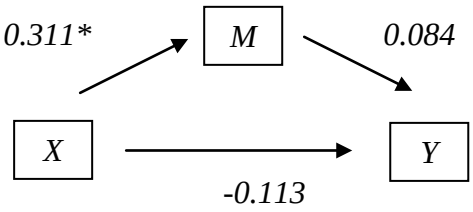
Figure C111. Predicting Employed (X) from Victim Age (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=124.838, Model LL=2.005, McFadden=0.016, CoxSnell=0.021, Nagelkrk=0.029

Figure C112. Predicting Employed (X) from Victim Age (Y) through Entitlement IT (M).

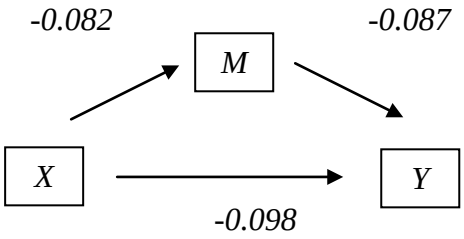
Employed from Weapon Use



Regression Summary: -2LL=126.760, Model LL=0.084, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

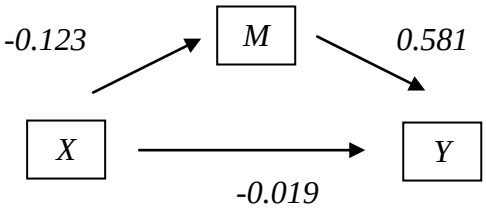
**p<0.05*

Figure C113. Predicting Employed (X) from Weapon Being Used (Y) through Dangerous World IT (M).



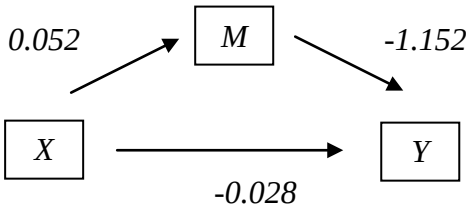
Regression Summary: -2LL=126.742, Model LL=0.101, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.002

Figure C114. Predicting Employed (X) from Weapon Being Used (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=125.277, Model LL=1.567, McFadden=0.012, CoxSnell=0.017, Nagelkrk=0.022

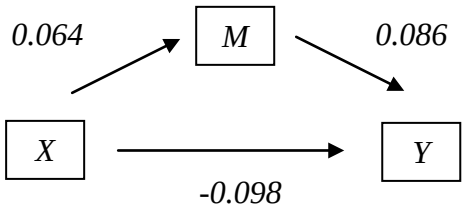
Figure C115. Predicting Employed (X) from Weapon Being Used (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=125.044, Model LL=1.800, McFadden=0.014, CoxSnell=0.019, Nagelkrk=0.026

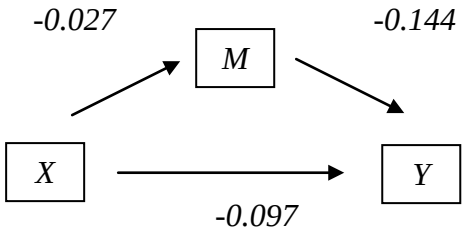
Figure C116. Predicting Employed (X) from Weapon Being Used (Y) through Entitlement IT (M).

Employed from Sexual Penetration



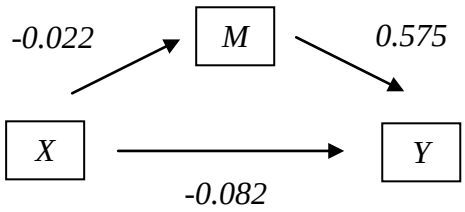
Regression Summary: -2LL=126.595, Model LL=0.248, McFadden=0.002, CoxSnell=0.003, Nagelkrk=0.004

Figure C117. Predicting Employed (X) from Sexual Penetration (Y) through Dangerous World IT (M).



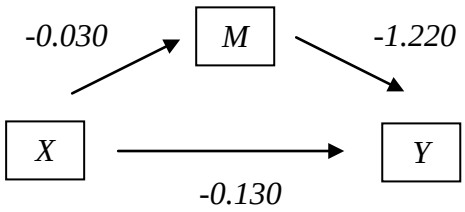
Regression Summary: -2LL=126.574, Model LL=0.270, McFadden=0.002, CoxSnell=0.003, Nagelkrk=0.004

Figure C118. Predicting Employed (X) from Sexual Penetration (Y) through Women as Sex Objects IT (M).



Regression Summary: -2LL=125.133, Model LL=1.711, McFadden=0.014, CoxSnell=0.018, Nagelkrk=0.024

Figure C119. Predicting Employed (X) from Sexual Penetration (Y) through Male Sex Drive Uncontrollable IT (M).



Regression Summary: -2LL=124.683, Model LL=2.160, McFadden=0.017, CoxSnell=0.023, Nagelkrk=0.031

Figure C120. Predicting Employed (X) from Sexual Penetration (Y) through Entitlement IT (M).

Table C29. Indirect Effects of Level of Aggression on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.012	0.048	-0.080	0.125	-0.063	0.143	-0.059	0.149
Women as Sex Objects	0.006	0.049	-0.069	0.095	-0.040	0.155	-0.041	0.147
Male Sex Drive Uncontrollable	-0.009	0.053	-0.124	0.083	-0.165	0.057	-0.167	0.056
Entitlement	0.033	0.304	-0.118	1.095	-0.053	1.347	-0.055	1.314

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C30. Indirect Effects of Level of Injury on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.041	0.092	-0.148	0.229	-0.128	0.258	-0.120	0.275
Women as Sex Objects	0.014	0.151	-0.108	0.178	-0.048	0.815	-0.054	0.557
Male Sex Drive Uncontrollable	-0.032	0.072	-0.195	0.098	-0.251	0.067	-0.238	0.073
Entitlement	0.004	0.239	-0.402	0.741	-0.275	0.895	-0.481	0.658

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C31. Indirect Effects of Offence Outcome on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.015	0.089	-0.244	0.126	-0.282	0.111	-0.287	0.107
Women as Sex Objects	-0.010	0.061	-0.129	0.129	-0.199	0.076	-0.195	0.078
Male Sex Drive Uncontrollable	0.013	0.080	-0.186	0.156	-0.108	0.220	-0.112	0.213
Entitlement	-0.009	0.356	-1.234	0.369	-1.196	0.409	-0.833	0.794

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C32. Indirect Effects of Victim Age on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	-0.000	0.001	-0.004	0.002	-0.003	0.002	-0.003	0.003
Women as Sex Objects	-0.000	0.002	-0.004	0.003	-0.007	0.002	-0.007	0.002
Male Sex Drive Uncontrollable	-0.001	0.002	-0.006	0.003	-0.007	0.002	-0.007	0.002
Entitlement	0.001	0.007	-0.006	0.025	-0.003	0.030	-0.003	0.031

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C33. Indirect Effects of Weapon Used on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.026	0.142	-0.190	0.396	-0.158	0.434	-0.156	0.470
Women as Sex Objects	0.011	0.071	-0.159	0.150	-0.085	0.229	-0.086	0.223
Male Sex Drive Uncontrollable	-0.071	0.108	-0.343	0.099	-0.423	0.053	-0.401	0.062
Entitlement	-0.060	0.472	-1.300	0.824	-2.497	0.155	-2.645	0.131

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table 34. Indirect Effects of Sexual Penetration on Employed through Implicit Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Dangerous World	0.006	0.037	-0.081	0.079	-0.046	0.126	-0.038	0.146
Women as Sex Objects	0.004	0.025	-0.060	0.050	-0.032	0.075	-0.033	0.075
Male Sex Drive Uncontrollable	-0.013	0.043	-0.124	0.060	-0.150	0.042	-0.134	0.049
Entitlement	0.037	0.148	-0.021	0.564	-0.025	0.533	-0.019	0.575

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table C35. Total Effects of Offence Variables on Employed (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.203	0.262	-0.772	0.440	0.596
Level of Injuries	0.106	0.228	0.464	0.643	0.215
Offence Outcome	0.049	0.437	0.112	0.911	0.013
Victim Age	0.006	0.011	0.504	0.615	0.254
Weapon Used	-0.087	0.521	-0.167	0.867	0.028
Sexual Penetration	-0.093	0.213	-0.435	0.663	0.190

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Appendix G: Content Dictionary for Motivations Coding

1) Angry
   - Women are the central focus of the offender's anger
   - Acts within the offence are meant to punish and physically harm the victim
   - Often the offender will use excessive violence that is beyond that necessary to control the victim
   - These attacks are often preceded or induced by life circumstances
   - Not usually planned
   - Often a stranger victim or prostitute; victim who is immediately available
   - Victim is often seriously injured

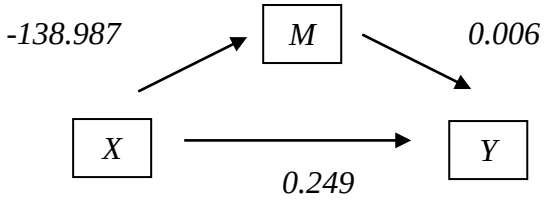
2) Sexually Opportunistic
   - Impulsive predatory act
   - Influenced by contextual and situational factors (e.g., rape of a woman during a burglary; woman who they met at a bar)
   - Often used alcohol before offending
   - Minimal force used throughout the offence
   - Victim typically an acquaintance

3) Sexually Compensatory
   - Aim of assault is to control woman; to compensate for underlying feelings of inadequacy
   - Overwhelming rape fantasies preceding offence
   - Offences are planned
   - Instrumental aggression (only what's necessary to control victim and complete offence)

4) Sadistic
   - Fusion of sex and aggression
   - Engage in physically damaging and degrading behaviours towards the victim (e.g., use of restraints, blindfolding, beating, burning, strangulation, torture, mutilation)
   - Have and engage in elaborate deviant sexual fantasies
   - Offences are planned and victims tend to be selected
   - Prolonged contact with victim

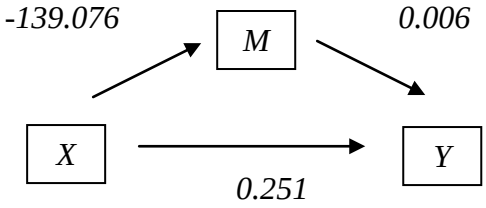
Appendix H: Figures and Tables of the Motivations Mediation Analyses

Perpetrator Age from Level of Aggression Used



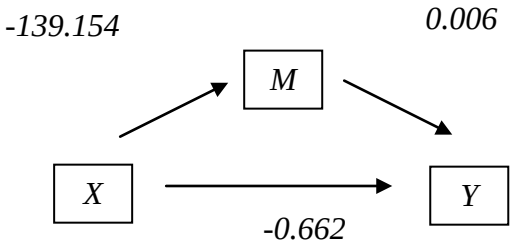
Model Summary: R^2=0.026, *F*=0.893 *p*=0.414

Figure F1. Predicting Perpetrator age (X) from Aggression (Y) through Angry Motivation (M).



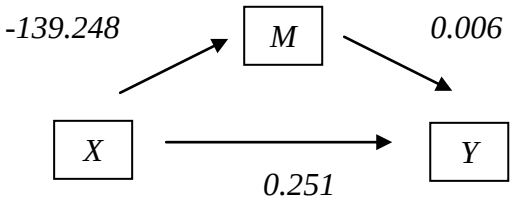
Model Summary: R^2=0.026, *F*=0.896 *p*=0.413

Figure F2. Predicting Perpetrator age (X) from Aggression (Y) through Sadistic Motivation (M).



Model Summary: R^2=0.026, *F*=0.895 *p*=0.413

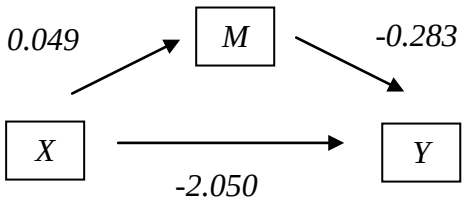
Figure F3. Predicting Perpetrator age (X) from Aggression (Y) through Sexually Compensatory Motivation (M).



Model Summary: R^2=0.026, *F*=0.894 *p*=0.414

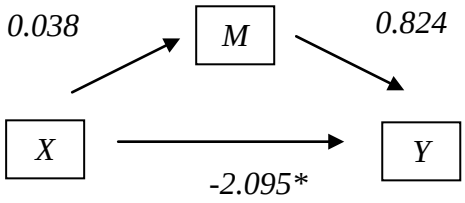
Figure F4. Predicting Perpetrator age (X) from Aggression (Y) through Sexually Opportunistic Motivation (M).

Perpetrator Age from Level of Injury



Model Summary: R^2=0.090, *F*=2.069 *p*=0.139

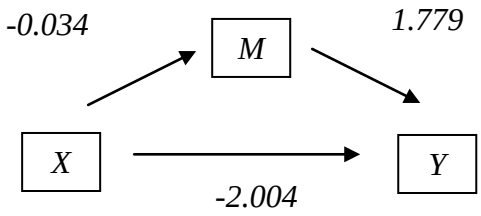
Figure F5. Predicting Perpetrator age (X) from Level of Injury (Y) through Angry Motivation (M).



Model Summary: R^2=0.091, *F*=2.112 *p*=0.134

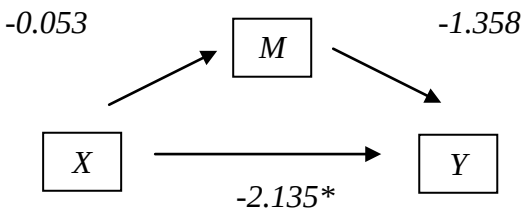
* *p*<0.05

Figure F6. Predicting Perpetrator age (X) from Level of Injury (Y) through Sadistic Motivation (M).



Model Summary: R^2=0.094, *F*=2.174 *p*=0.126

Figure F7. Predicting Perpetrator age (X) from Level of Injury (Y) through Sexually Compensatory Motivation (M).

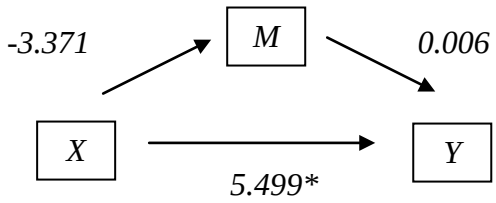


Model Summary: R^2=0.095, *F*=2.190 *p*=0.125

* *p*<0.05

Figure F8. Predicting Perpetrator age (X) from Level of Injury (Y) through Sexually Opportunistic Motivation (M).

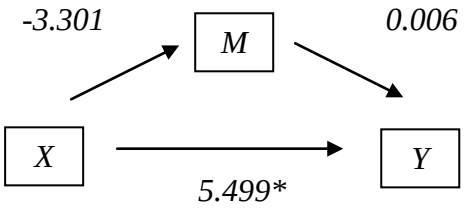
Perpetrator Age from Offence Outcome



Model Summary: R^2=0.129, *F*=4.965 *p*=0.010

* *p*<0.01

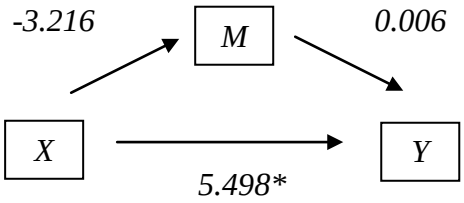
Figure F9. Predicting Perpetrator age (X) from Offence Outcome (Y) through Angry Motivation (M).



Model Summary: R^2=0.129, *F*=4.968 *p*=0.010

* *p*<0.05

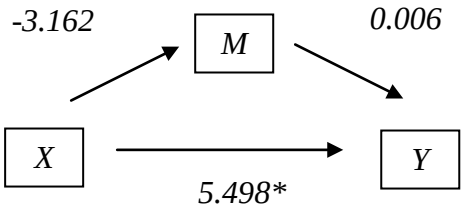
Figure F10. Predicting Perpetrator age from Offence Outcome through Sadistic Motivation.



Model Summary: R^2=0.129, *F*=4.966 *p*=0.010

* *p*<0.01

Figure F11. Predicting Perpetrator age (X) from Offence Outcome (Y) through Sexually Compensatory Motivation (M).

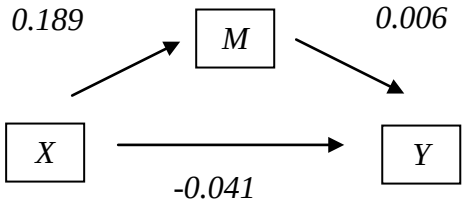


Model Summary: R^2=0.129, *F*=4.964 *p*=0.010

* *p*<0.01

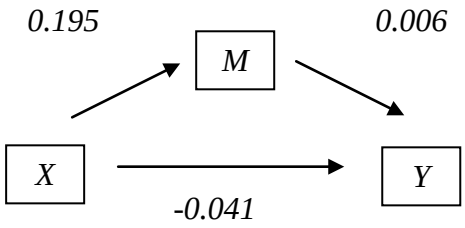
Figure F12. Predicting Perpetrator age (X) from Offence Outcome (Y) through Sexually Opportunistic Motivation (M).

Perpetrator Age from Victim Age



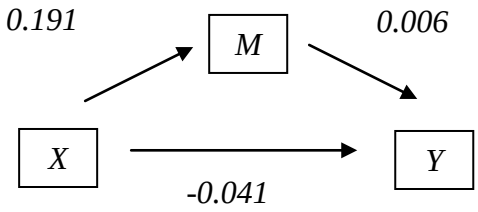
Model Summary: R^2=0.034, *F*=1.172 *p*=0.316

Figure F13. Predicting Perpetrator age (X) from Victim Age (Y) through Angry Motivation (M).



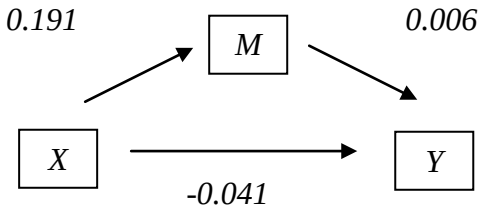
Model Summary: R^2=0.034, *F*=1.175 *p*=0.315

Figure F14. Predicting Perpetrator age (X) from Victim Age (Y) through Sadistic Motivation (M).



Model Summary: R^2=0.034, *F*=1.174 *p*=0.315

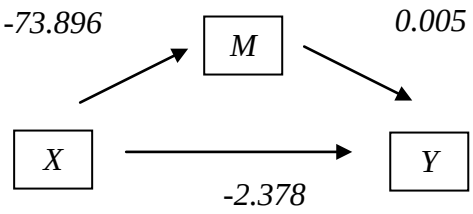
Figure F15. Predicting Perpetrator age (X) from Victim Age (Y) through Sexually Compensatory Motivation (M).



Model Summary: R^2=0.034, *F*=1.174 *p*=0.315

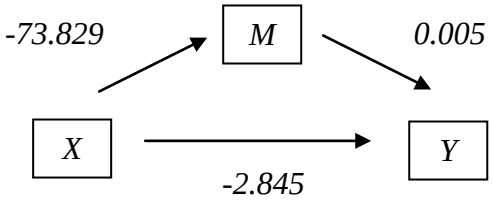
Figure F16. Predicting Perpetrator age (X) from Victim Age (Y) through Sexually Opportunistic Motivation (M).

Perpetrator Age from Weapon Use



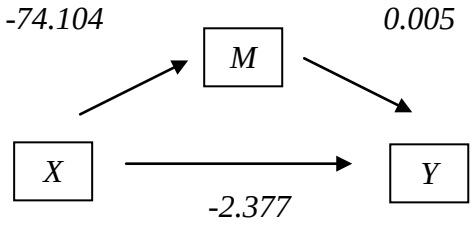
Model Summary: R^2=0.039, *F*=1.359, p=0.264

Figure F17. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Angry Motivation (M).



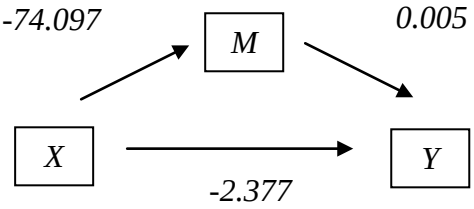
Model Summary: R^2=0.039, *F*=1.361, p=0.263

Figure F18. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Sadistic Motivation (M).



Model Summary: R^2=0.039, *F*=1.360, p=0.264

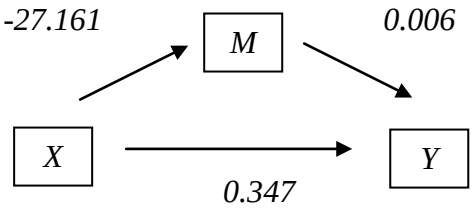
Figure F19. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Sexually Compensatory Motivation (M).



Model Summary: R^2=0.039, *F*=1.359, p=0.264

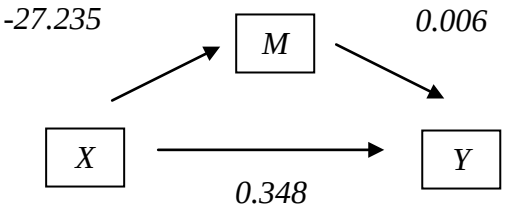
Figure F20. Predicting Perpetrator age (X) from Weapon Being Used (Y) through Sexually Opportunistic Motivation (M).

Perpetrator Age from Sexual Penetration



Model Summary: R^2=0.022, *F*=0.942, p=0.395

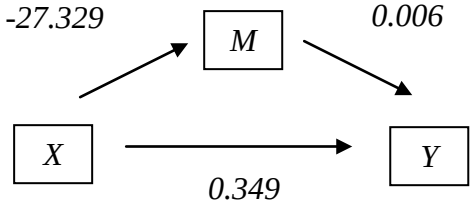
Figure F21. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Angry Motivation (M).



Model Summary: R^2=0.027, *F*=0.945, p=0.394

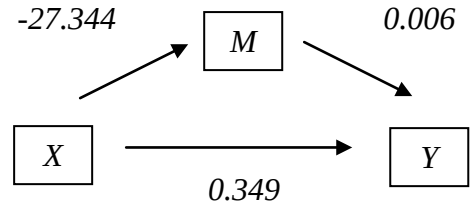
**p<0.06*

Figure F22. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Sadistic Motivation (M).



Model Summary: R^2=0.030, *F*=0.945, p=0.394

Figure F23. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Sexually Compensatory Motivation (M).



Model Summary: R^2=0.027, *F*=0.943, p=0.394

Figure F24. Predicting Perpetrator age (X) from Sexual Penetration (Y) through Sexually Opportunistic Motivation (M).

Table F1. Indirect Effects of Level of Aggression on Perpetrator Age through Motive Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.874	0.718	-1.218	-3.591	1.161	-3.927	1.006	-4.946	0.776
Sadistic	-0.876	0.718	-1.220	-3.610	1.167	-4.027	0.981	-4.945	0.756
Sexually Compensatory	-0.877	0.719	-1.220	-3.616	1.161	-4.017	0.988	-5.097	0.766
Sexually Opportunistic	-0.877	0.719	-1.219	-3.689	1.164	-4.158	0.994	-5.013	0.764

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F2. Indirect Effects of Level of Injuries on Perpetrator Age through Motive Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.014	0.108	-0.128	-0.458	0.351	-0.589	0.272	-0.627	0.257
Sadistic	0.031	0.109	0.285	-0.359	0.748	-0.282	0.881	-0.304	0.833
Sexually Compensatory	-0.060	0.147	-0.410	-0.472	0.133	-0.649	0.074	-0.648	0.075
Sexually Opportunistic	0.072	0.161	0.443	-0.275	0.741	-0.188	0.956	-0.194	0.920

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F3. Indirect Effects of Offence Outcome on Perpetrator Age through Motive Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.020	0.334	-0.060	-0.295	1.813	-0.790	0.394	-0.790	0.341
Sadistic	-0.020	0.334	-0.059	-0.312	1.950	-0.894	0.405	-0.984	0.339
Sexually Compensatory	-0.019	-0.334	-0.058	-0.299	1.890	-0.833	0.440	-0.843	0.371
Sexually Opportunistic	-0.019	0.334	-0.057	-0.305	1.821	-1.368	0.402	-1.439	0.343

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F4. Indirect Effects of Victim Age on Perpetrator Age through Motive Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.001	0.009	0.128	-0.041	0.017	-0.016	0.039	-0.012	0.044
Sadistic	0.001	0.009	0.132	-0.043	0.017	-0.016	0.052	-0.012	0.064
Sexually Compensatory	0.001	0.009	0.129	-0.043	0.017	-0.015	0.049	-0.012	0.068
Sexually Opportunistic	0.001	0.009	0.129	-0.043	0.017	-0.016	-0.046	-0.012	-0.123

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F5. Indirect Effects of a Weapon Being Used on Perpetrator Age Motive Implicit Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.393	0.477	-0.023	-1.900	0.624	-2.129	0.537	-2.717	0.405
Sadistic	-0.393	0.477	-0.023	-1.796	0.651	-2.020	0.546	-2.654	0.421
Sexually Compensatory	-0.394	0.478	-0.824	-1.870	0.620	-2.059	-0.523	-2.588	-0.414
Sexually Opportunistic	-0.394	-0.478	-0.824	-1.795	0.663	-2.000	0.558	-2.521	0.428

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F6. Indirect Effects of Sexual Penetration on Perpetrator Age through Motive Variables (*ab* paths)

				Bootstrapping					
	B	Product of Coefficients		Percentile 95% CI		BC 95% CI		BCa 95% CI	
		SE	*Z*	Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.165	0.200	-0.826	-0.692	0.214	-0.760	0.188	-1.005	0.145
Sadistic	-0.166	0.200	-0.828	-0.709	0.212	-0.791	0.177	-1.002	0.126
Sexually Compensatory	-0.167	0.201	-0.830	-0.719	0.209	-0.809	0.178	-1.022	0.130
Sexually Opportunistic	-0.167	0.201	-0.830	-0.725	-0.200	-0.797	0.175	-1.042	0.126

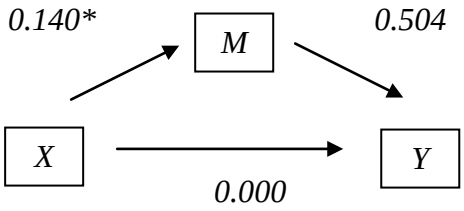
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F7. Total Effects of Offence Variables on Perpetrator Age (*c* path)

		Product of Coefficients		
	B	*SE*	*t*	*p*
Level of Aggression	-0.626	1.312	-0.477	0.635
Level of Injuries	-2.064	1.001	-2.054	0.046
Offence Outcome	5.479	1.963	2.791	0.007
Victim Age	-0.040	0.054	-0.731	0.467
Weapon Used	-2.771	2.444	-1.134	0.261
Sexual Penetration	0.182	0.985	0.185	0.854

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

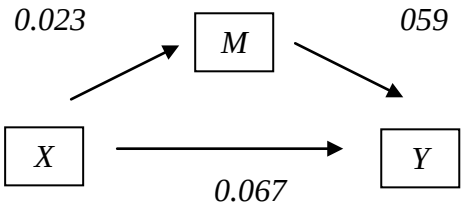
Relationship Status from Level of Aggression Used



Regression Summary: -2LL=114.712, Model LL=1.198, McFadden=0.010, CoxSnell=0.013, Nagelkrk=0.018

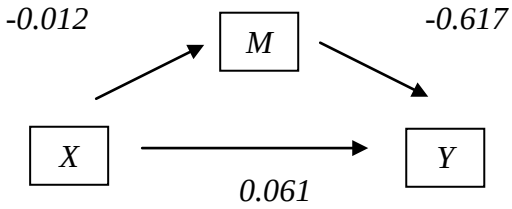
*p<0.05

Figure F25. Predicting Relationship Status (X) from Aggression (Y) through Angry Motivation (M).



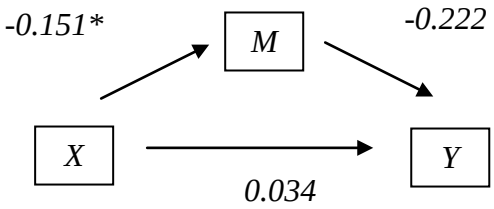
Regression Summary: -2LL=115.839, Model LL=0.070, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure F26. Predicting Relationship Status from Aggression through Sadistic Motivation.



Regression Summary: -2LL=114.712, Model LL=1.197, McFadden=0.010, CoxSnell=0.013, Nagelkrk=0.018

Figure F27. Predicting Relationship Status (X) from Aggression (Y) through Sexually Compensatory Motivation (M).

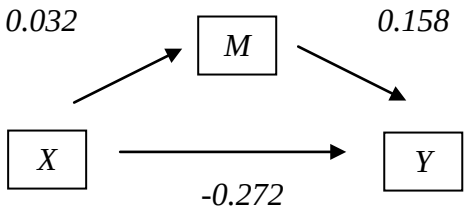


Regression Summary: -2LL=115.702, Model LL=0.207, McFadden=0.002, CoxSnell=0.002, Nagelkrk=0.003

*p<0.01

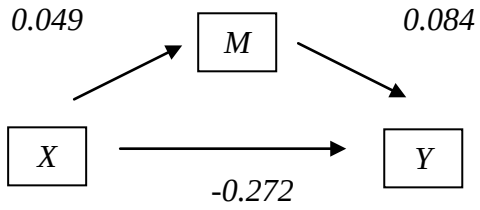
Figure F28. Predicting Relationship Status (X) from Aggression (Y) through Sexually Opportunistic Motivation (M).

Relationship Status from Level of Injury



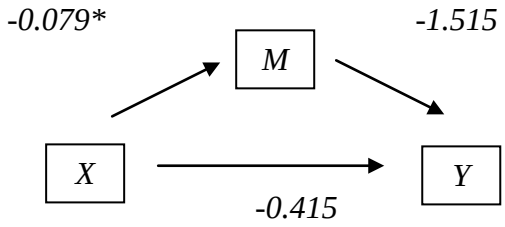
Regression Summary: -2LL=71.654 Model LL=1.343, McFadden=0.018, CoxSnell=0.024, Nagelkrk=0.033

Figure F29. Predicting Relationship Status (X) from Level of Injury(Y) through Angry Motivation (M).



Regression Summary: -2LL=71.719, Model LL=1.278, McFadden=0.018, CoxSnell=0.023, Nagelkrk=0.031

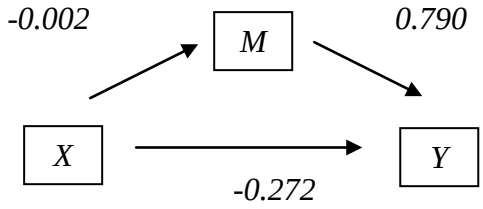
Figure F30. Predicting Relationship Status (X) from Level of Injury (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=68.918, Model LL=4.079, McFadden=0.056, CoxSnell=0.070, Nagelkrk=0.096

*p <0.05

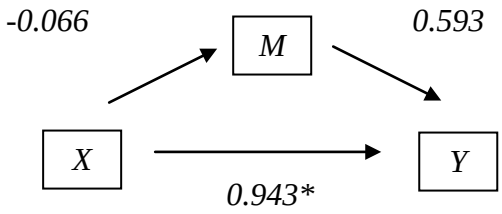
Figure F31. Predicting Relationship Status (X) from Level of Injury (Y) through Sexually Compensatory Motivation (M).



Regression Summary: -2LL=70.816, Model LL=2.181, McFadden=0.030, CoxSnell=0.038, Nagelkrk=0.052

Figure F32. Predicting Relationship Status (X) from Level of Injury(Y) through Sexually Opportunistic Motivation (M).

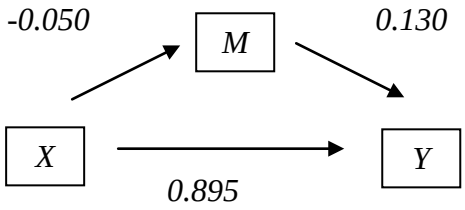
Relationship Status from Offence Outcome



Regression Summary: -2LL=110.528, Model LL=5.381, McFadden=0.046, CoxSnell=0.058, Nagelkrk=0.080

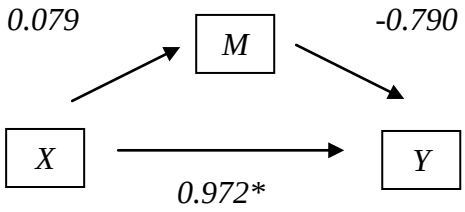
*p <0.05

Figure F33. Predicting Relationship Status (X) from Offence Outcome(Y) through Angry Motivation (M).



Regression Summary: -2LL=112.043, Model LL=3.67, McFadden=0.033, CoxSnell=0.042, Nagelkrk=0.058

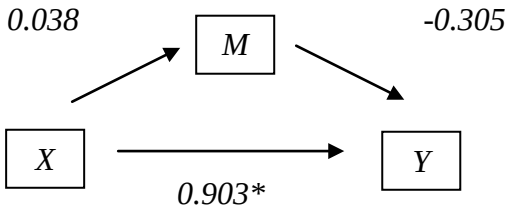
Figure F34. Predicting Relationship Status (X) from Offence Outcome (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=110.366, Model LL=5.543, McFadden=0.048, CoxSnell=0.060, Nagelkrk=0.083

*p <0.05

Figure F35. Predicting Relationship Status (X) from Offence Outcome (Y) through Sexually Compensatory Motivation (M).

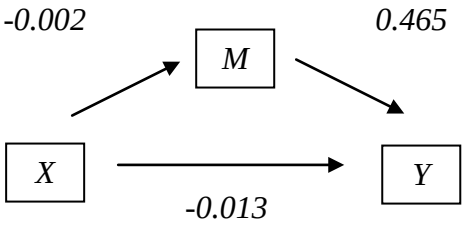


Regression Summary: -2LL=111.805, Model LL=4.104, McFadden=0.035, CoxSnell=0.045, Nagelkrk=0.062

* p <0.05

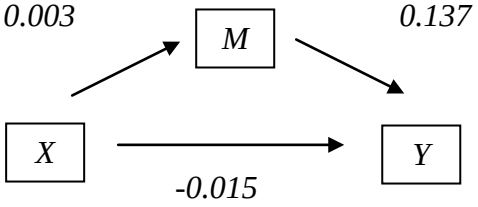
Figure F36. Predicting Relationship Status (X) from Offence Outcome (Y) through Sexually Opportunistic Motivation (M).

Relationship Status from Victim Age



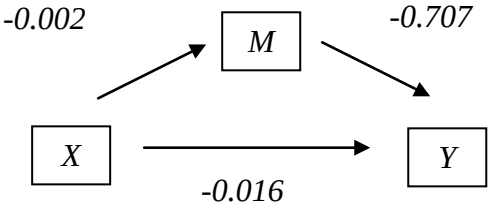
Regression Summary: -2LL=113.508, Model LL=2.402, McFadden=0.021, CoxSnell=0.026, Nagelkrk=0.036

Figure F37. Predicting Relationship Status (X) from Victim Age(Y) through Angry Motivation (M).



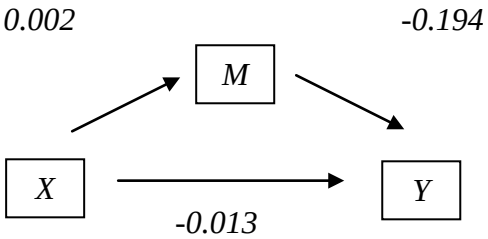
Regression Summary: -2LL=114.444, Model LL=1.465, McFadden=0.013, CoxSnell=0.016, Nagelkrk=0.022

Figure F38. Predicting Relationship Status (X) (Y) from Victim Age through Sadistic Motivation (M).



Regression Summary: -2LL=113.064, Model LL=2.846, McFadden=0.025, CoxSnell=0.031, Nagelkrk=0.043

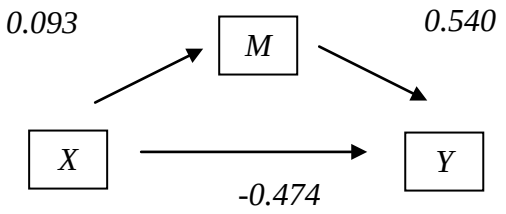
Figure F39. Predicting Relationship Status (X) from Victim Age(Y) through Sexually Compensatory Motivation (M).



Regression Summary: -2LL=114.387, Model LL=1.522, McFadden=0.013, CoxSnell=0.017, Nagelkrk=0.023

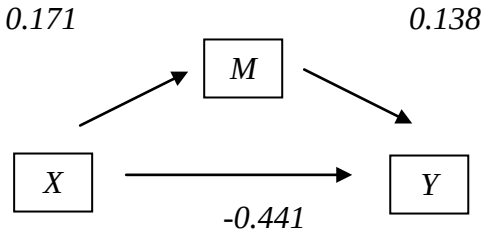
Figure F40. Predicting Relationship Status (X) from Victim Age(Y) through Sexually Opportunistic Motivation (M).

Relationship Status from Weapon Use



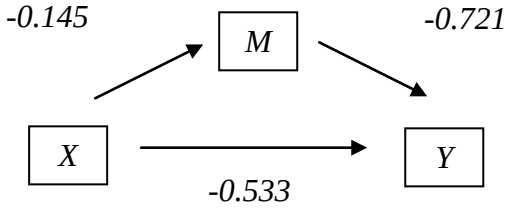
Regression Summary: -2LL=113.940, Model LL=1.969, McFadden=0.017 CoxSnell=0.22, Nagelkrk=0.030

Figure F41. Predicting Relationship Status (X) from Weapon Being Used (Y) through Angry Motivation (M).



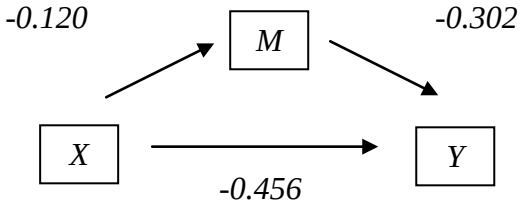
Regression Summary: -2LL=115.230, Model LL=0.679, McFadden=0.006, CoxSnell=0.008, Nagelkrk=0.010

Figure F42. Predicting Relationship Status (X) from Weapon Being Used (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=113.803, Model LL=2.106, McFadden=0.018, CoxSnell=0.023, Nagelkrk=0.032

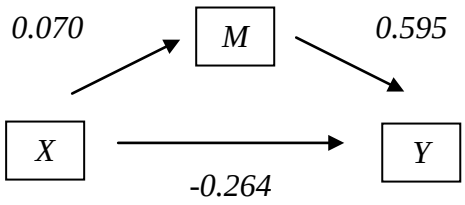
Figure F43. Predicting Relationship Status (X) from Weapon Being Used (Y) through Sexually Compensatory Motivation (M).



Regression Summary: -2LL=115.000, Model LL=0.909, McFadden=0.008, CoxSnell=0.010, Nagelkrk=0.014

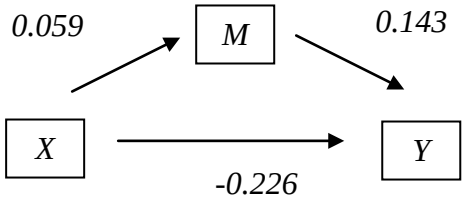
Figure F44. Predicting Relationship Status (X) from Weapon Being Used (Y) through Sexually Opportunistic Motivation (M).

Relationship Status from Sexual Penetration



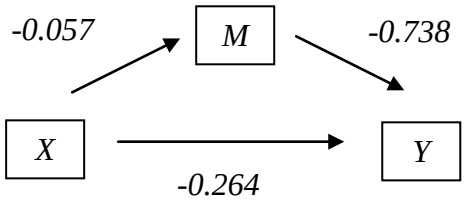
Regression Summary: -2LL=113.315, Model LL=2.595, McFadden=0.022, CoxSnell=0.028, Nagelkrk=0.039

Figure F45. Predicting Relationship Status (X) from Sexual Penetration (Y) through Angry Motivation (M).



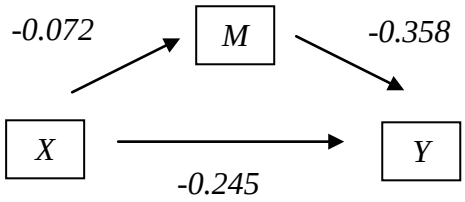
Regression Summary: -2LL=114.842, Model LL=1.068, McFadden=0.009, CoxSnell=0.012, Nagelkrk=0.016

Figure F46. Predicting Relationship Status (X) from Sexual Penetration (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=113.347, Model LL=2.562, McFadden=0.022, CoxSnell=0.028, Nagelkrk=0.039

Figure F47. Predicting Relationship Status (X) from Sexual Penetration (Y) through Sexually Compensatory Motivation (M).



Regression Summary: -2LL=114.505, Model LL=1.404, McFadden=0.012, CoxSnell=0.016, Nagelkrk=0.021

Figure F48. Predicting Relationship Status (X) from Sexual Penetration (Y) through Sexually Opportunistic Motivation (M).

Table F8. Indirect Effects of Level of Aggression on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.070	0.081	-0.076	0.253	-0.042	0.300	-0.045	0.293
Sadistic	0.001	0.036	-0.084	0.076	-0.059	0.107	-0.068	0.091
Sexually Compensatory	0.008	0.052	-0.073	0.118	-0.048	0.170	-0.043	0.189
Sexually Opportunistic	0.033	0.121	-0.175	0.257	-0.148	0.290	-0.145	0.294

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F9. Indirect Effects of Level of Injury on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.005	0.041	-0.080	0.099	-0.050	0.146	-0.055	0.132
Sadistic	0.004	0.123	-0.088	0.156	-0.086	0.161	-0.113	0.131
Sexually Compensatory	0.120	0.303	-0.134	0.642	-0.048	1.034	-0.041	1.181
Sexually Opportunistic	-0.002	0.350	-1.290	0.229	-1.211	0.271	-1.108	0.362

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F10. Indirect Effects of Offence Outcome on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.039	0.093	-0.258	0.129	-0.368	0.066	-0.360	0.069
Sadistic	-0.007	0.092	-0.192	0.106	-0.254	0.084	-0.212	0.098
Sexually Compensatory	-0.062	0.117	-0.224	0.130	-0.325	0.040	-0.337	0.035
Sexually Opportunistic	-0.012	0.122	-0.207	0.086	-0.254	0.067	-0.228	0.077

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F11. Indirect Effects of Victim Age on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.001	0.002	-0.007	0.003	-0.010	0.001	-0.009	0.001
Sadistic	0.003	0.003	-0.003	0.007	-0.003	0.009	-0.003	0.008
Sexually Compensatory	0.001	0.003	-0.003	0.006	-0.001	0.009	-0.001	0.010
Sexually Opportunistic	-0.000	0.003	-0.005	0.003	-0.007	0.002	-0.007	0.002

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F12. Indirect Effects of Weapon Used on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.051	0.144	-0.136	0.336	-0.072	0.449	-0.075	0.432
Sadistic	0.024	0.148	-0.206	0.316	-0.157	0.406	-0.171	0.375
Sexually Compensatory	0.104	0.135	-0.101	0.349	-0.057	0.409	-0.044	0.426
Sexually Opportunistic	0.036	0.106	-0.106	0.321	-0.081	0.368	-0.089	0.348

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F13. Indirect Effects of Sexual Penetration on Relationship Status through Motive Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.042	0.059	-0.039	-0.188	-0.024	0.233	-0.027	0.225
Sadistic	0.008	0.057	-0.085	0.112	-0.055	0.156	-0.059	0.142
Sexually Compensatory	0.042	0.043	-0.031	0.116	-0.018	0.130	-0.014	0.136
Sexually Opportunistic	0.026	0.052	-0.059	0.135	-0.053	0.144	-0.051	0.145

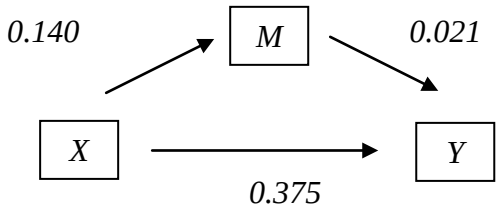
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F14. Total Effects of Offence Variables on Relationship Status (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.068	0.283	0.241	0.810	0.057
Level of Injuries	-0.268	0.243	-1.105	0.269	1.219
Offence Outcome	0.888	0.457	1.941	0.052	3.769
Victim Age	-0.014	0.012	-1.186	0.236	1.406
Weapon Used	-0.417	0.529	-0.788	0.431	0.621
Sexual Penetration	-0.217	0.216	-1.006	0.315	1.011

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

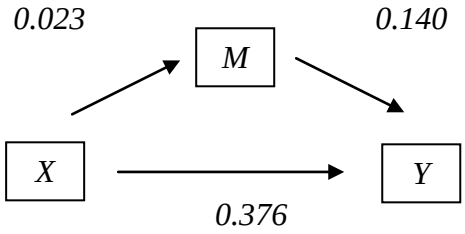
Previous Convictions from Level of Aggression Used



Regression Summary: -2LL=91.341, Model LL=1.435, McFadden=0.016, CoxSnell=0.016, Nagelkrk=0.025

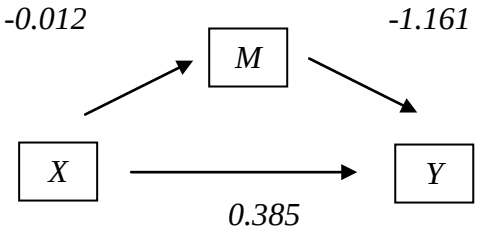
*p<0.05

Figure F49. Predicting Previous Convictions (X) from Aggression (Y) through Angry Motivation (M).



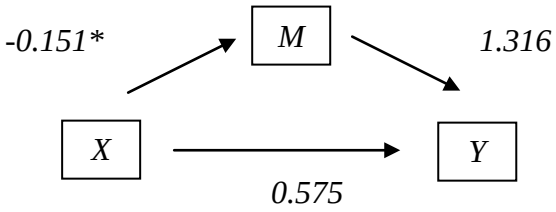
Regression Summary: -2LL=91.293, Model LL=1.484, McFadden=0.016, CoxSnell=0.016, Nagelkrk=0.025

Figure F50. Predicting Previous Convictions (X) from Aggression (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=87.960, Model LL=4.817, McFadden=0.052, CoxSnell=0.052, Nagelkrk=0.081

Figure 51. Predicting Previous Convictions (X) from Aggression (Y) through Sexually Compensatory Motivation (M).

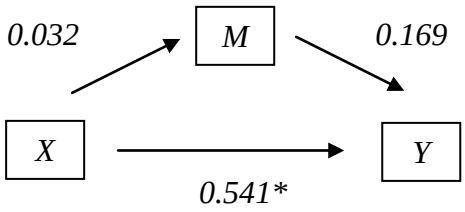


Regression Summary: -2LL=88.488, Model LL=4.288, McFadden=0.046, CoxSnell=0.047, Nagelkrk=0.072

*p<0.01

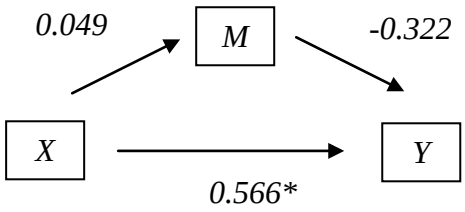
Figure F52. Predicting Previous Convictions (X) from Aggression (Y) through Sexually Opportunistic Motivation (M).

Previous Convictions from Level of Injury



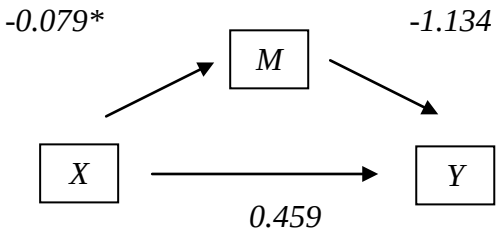
Regression Summary: -2LL=60.320, Model LL=4.765, McFadden=0.073, CoxSnell=0.082, Nagelkrk=0.119
*p<0.05

Figure F53. Predicting Previous Convictions (X) from Level of Injury (Y) through Angry Motivation (M).



Regression Summary: -2LL=60.234, Model LL=4.815, McFadden=0.075, CoxSnell=0.083, Nagelkrk=0.121
* p<0.05

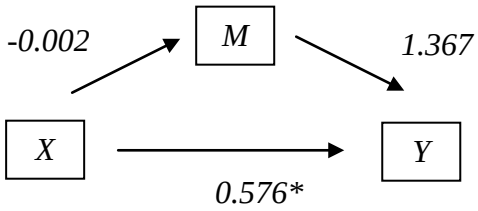
Figure F54. Predicting Previous Convictions (X) from Level of Injury (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=58.791, Model LL=6.295, McFadden=0.087, CoxSnell=0.106, Nagelkrk=0.155

*p<0.05

Figure F55. Predicting Previous Convictions (X) from Level of Injury (Y) through Sexually Compensatory Motivation (M).

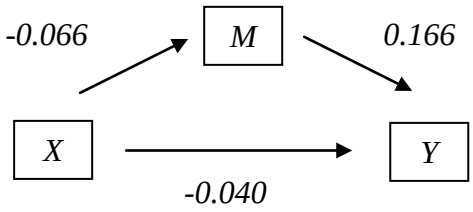


Regression Summary: -2LL=58.591, Model LL=6.494, McFadden=0.100, CoxSnell=0.120, Nagelkrk=0.159

*p<0.05

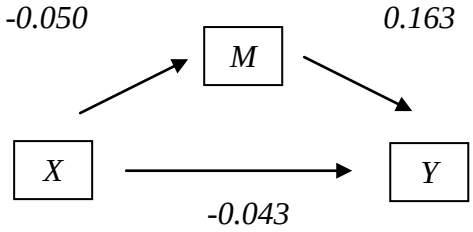
Figure F56. Predicting Previous Convictions (X) from Level of Injury (Y) through Sexually Opportunistic Motivation (M).

Previous Convictions from Offence Outcome



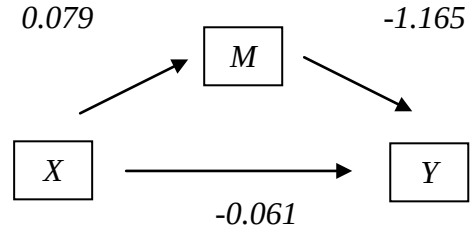
Regression Summary: -2LL=92.670, Model LL=0.106, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.002

Figure F57. Predicting Previous Convictions (X) from Offence Outcome (Y) through Angry Motivation (M).



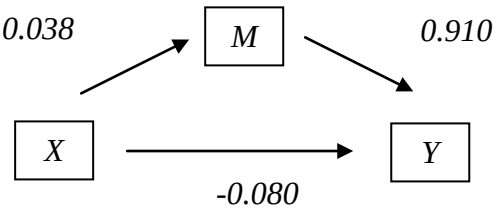
Regression Summary: -2LL=92.699, Model LL=0.078, McFadden=0.001, CoxSnell=0.001 Nagelkrk=0.001

Figure F58. Predicting Previous Convictions (X) from Offence Outcome (Y) through Sadistic Motivation (M).



Regression Summary: -2LL=89.348, Model LL=3.429, McFadden=0.037, CoxSnell=0.037, Nagelkrk=0.058

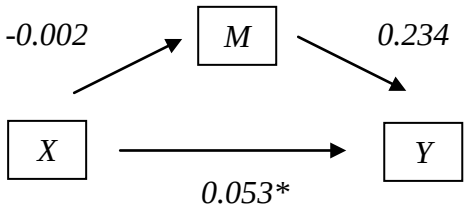
Figure F59. Predicting Previous Convictions (X) from Offence Outcome (Y) through Sexually Compensatory Motivation (M).



Regression Summary: -2LL=91.240, Model LL=1.537, McFadden=0.017, CoxSnell=0.017, Nagelkrk=0.026

Figure F60. Predicting Previous Convictions (X) from Offence Outcome (Y) through Sexually Compensatory Motivation (M).

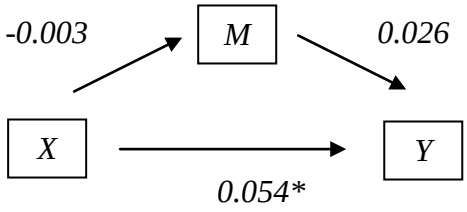
Previous Convictions from Victim Age



Regression Summary: -2LL=85.398, Model LL=7.379, McFadden=0.080, CoxSnell=0.079, Nagelkrk=0.122

*p<0.05

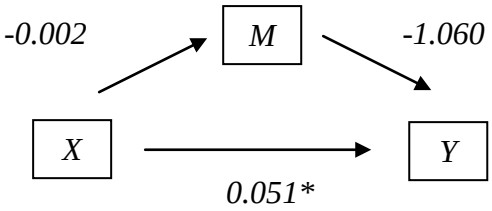
Figure F61. Predicting Previous Convictions from Victim Age through Angry Motivation.



Regression Summary: -2LL=85.580, Model LL=7.197, McFadden=0.078, CoxSnell=0.077 Nagelkrk=0.120

*p<0.05

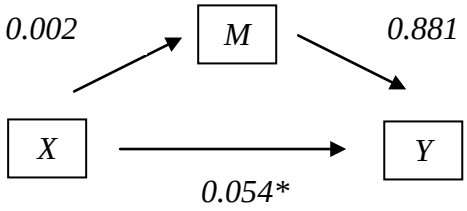
Figure F62. Predicting Previous Convictions from Victim Age through Sadistic Motivation.



Regression Summary: -2LL=82.906, Model LL=9.871, McFadden=0.106, CoxSnell=0.104, Nagelkrk=0.162

*p<0.05

Figure 63. Predicting Previous Convictions from Victim Age through Sexually Compensatory Motivation.

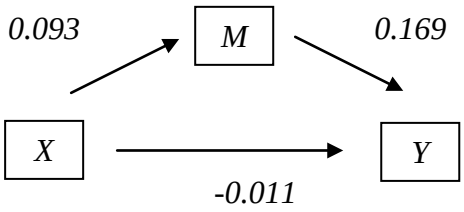


Regression Summary: -2LL=84.251, Model LL=8.525, McFadden=0.092, CoxSnell=0.090, Nagelkrk=0.141

*p<0.05

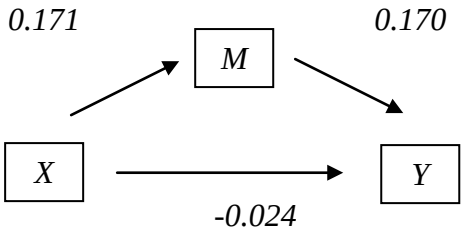
Figure F64. Predicting Previous Convictions from Victim Age through Sexually Opportunistic Motivation.

Previous Convictions from Weapon Use



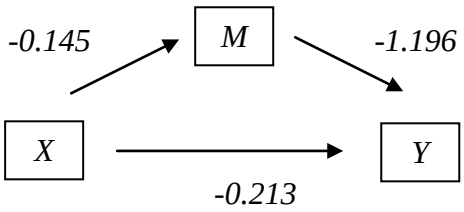
Regression Summary: -2LL=92.675, Model LL=0.101, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.002

Figure F65. Predicting Previous Convictions from Weapon Being Used through Angry Motivation.



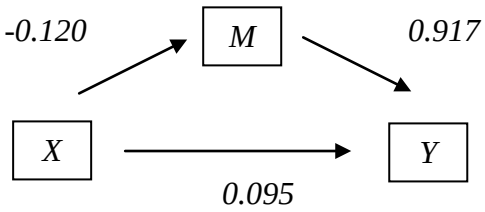
Regression Summary: -2LL=92.704, Model LL=0.073, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure F66. Predicting Previous Convictions from Weapon Being Used through Sadistic Motivation.



Regression Summary: -2LL=89.257, Model LL=3.520, McFadden=0.038, CoxSnell=0.038, Nagelkrk=0.060

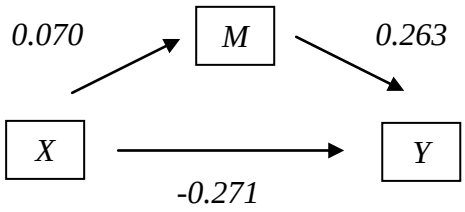
Figure F67. Predicting Previous Convictions from Weapon Being Used through Sexually Compensatory Motivation.



Regression Summary: -2LL=91.240, Model LL=1.537, McFadden=0.017, CoxSnell=0.017, Nagelkrk=0.026

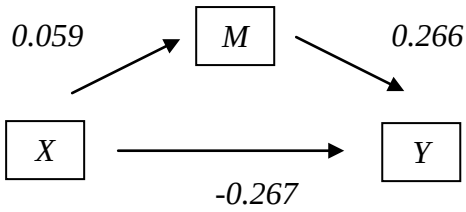
Figure F68. Predicting Previous Convictions from Weapon Being Used through Sexually Opportunistic Motivation.

Previous Convictions from Sexual Penetration



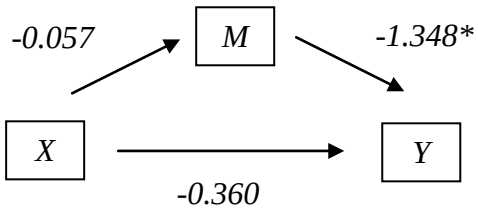
Regression Summary: -2LL=91.470, Model LL=1.306, McFadden=0.014, CoxSnell=0.014 Nagelkrk=0.022

Figure F69. Predicting Previous Convictions from Sexual Penetration through Angry Motivation.



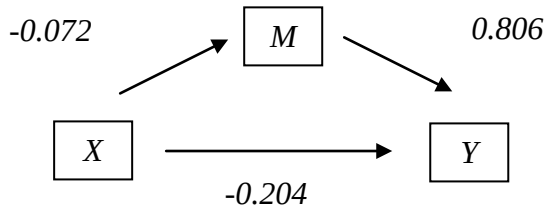
Regression Summary: -2LL=91.528, Model LL=1.245, McFadden=0.014, CoxSnell=0.014, Nagelkrk=0.022

Figure F70. Predicting Previous Convictions from Sexual Penetration through Sadistic Motivation.



Regression Summary: -2LL=87.385, Model LL=5.392, McFadden=0.058, CoxSnell=0.058, Nagelkrk=0.090

Figure F71. Predicting Previous Convictions from Sexual Penetration through Sexually Compensatory Motivation.



Regression Summary: -2LL=90.567, Model LL=2.10, McFadden=0.024, CoxSnell=0.024, Nagelkrk=0.038

Figure F72. Predicting Previous Convictions from Sexual Penetration through Sexually Opportunistic Motivation.

Table F15. Indirect Effects of Level of Aggression on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.003	0.119	-0.180	0.216	-0.178	0.218	-0.183	0.214
Sadistic	0.003	0.158	-0.108	0.125	-0.064	0.382	-0.091	0.146
Sexually Compensatory	0.014	0.075	-0.093	0.187	-0.079	0.217	-0.072	0.237
Sexually Opportunistic	-0.198	0.982	-3.896	0.027	-3.801	0.032	-3.223	0.074

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F16. Indirect Effects of Level of Injury on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.005	0.061	-0.105	0.116	-0.068	0.153	-0.082	0.147
Sadistic	-0.016	0.182	-0.290	0.193	-0.285	0.248	-0.253	0.387
Sexually Compensatory	0.090	0.399	-0.037	1.551	-0.033	1.671	-0.035	1.572
Sexually Opportunistic	-0.003	0.505	-0.761	1.571	-0.993	1.249	-2.111	0.821

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F17. Indirect Effects of Offence Outcome on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.011	0.086	-0.221	0.139	-0.303	0.087	-0.284	0.095
Sadistic	-0.008	0.210	-0.170	0.194	-0.940	0.082	-0.354	0.097
Sexually Compensatory	-0.092	0.141	-0.411	0.092	-0.474	0.061	-0.450	0.072
Sexually Opportunistic	0.034	0.628	-0.451	2.250	-0.165	2.956	-0.292	2.495

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F18. Indirect Effects of Victim Age on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.001	0.002	-0.006	0.003	-0.008	0.002	-0.008	0.002
Sadistic	0.000	0.011	-0.005	0.009	-0.005	0.011	-0.005	0.008
Sexually Compensatory	0.002	0.003	-0.003	0.008	-0.002	0.011	-0.002	0.010
Sexually Opportunistic	0.002	0.035	-0.007	0.094	-0.003	0.128	-0.004	0.117

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F19. Indirect Effects of Weapon Used on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.016	0.100	-0.171	0.259	-0.099	0.383	-0.106	0.367
Sadistic	0.029	0.379	-0.266	0.476	-0.176	1.037	-0.207	0.606
Sexually Compensatory	0.173	0.168	-0.027	0.524	-0.021	0.539	-0.036	0.514
Sexually Opportunistic	-0.110	0.900	-3.458	0.134	-4.056	0.088	-3.586	0.119

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F20. Indirect Effects of Sexual Penetration on Previous Convictions through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.018	0.59	-0.072	0.158	-0.08	0.216	-0.054	0.203
Sadistic	0.016	0.161	-0.082	0.198	-0.049	0.514	-0.059	0.290
Sexually Compensatory	0.076	0.060	-0.008	0.185	0.001	0.200	0.003	0.204
Sexually Opportunistic	-0.058	0.414	-1.588	0.041	-1.632	0.039	-1.461	0.056

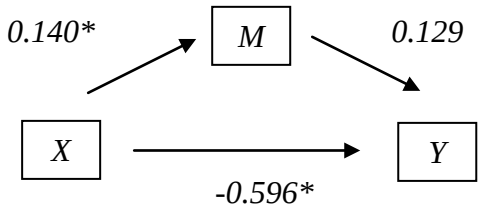
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F21. Total Effects of Offence Variables on Previous Convictions (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	0.378	0.310	1.218	0.223	1.484
Level of Injuries	0.548	0.260	2.107	0.035	4.441
Offence Outcome	-0.051	0.535	-0.095	0.925	0.009
Victim Age	0.054	0.025	2.141	0.033	4.582
Weapon Used	0.005	0.633	0.007	0.994	0.000
Sexual Penetration	-0.251	0.236	-1.063	0.288	1.131

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

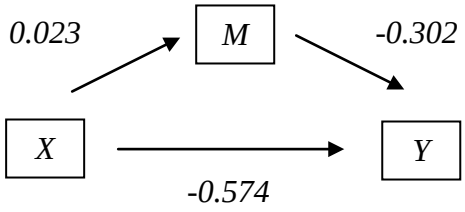
Lives Alone from Level of Aggression Used



Regression Summary: -2LL=81.119, Model LL=4.313, McFadden=0.037, CoxSnell=0.034, Nagelkrk=0.056

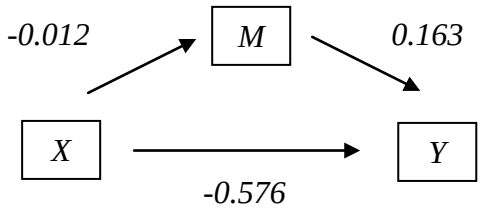
*p<0.05

Figure F73. Predicting Lives Alone from Aggression through Angry Motivation.



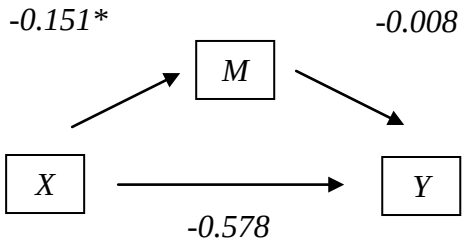
Regression Summary: -2LL=80.975, Model LL=3.266, McFadden=0.039, CoxSnell=0.036, Nagelkrk=0.059

Figure F74. Predicting Lives Alone from Aggression through Sadistic Motivation.



Regression Summary: -2LL=81.115, Model LL=3.126, McFadden=0.037, CoxSnell=0.056, Nagelkrk=0.132

Figure F75. Predicting Lives Alone from Aggression through Sexually Compensatory Motivation.

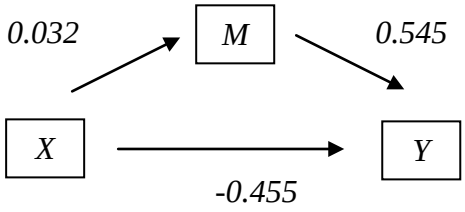


Regression Summary: -2LL=81.164, Model LL=3.077, McFadden=0.088, CoxSnell=0.034, Nagelkrk=0.055

*p<0.05

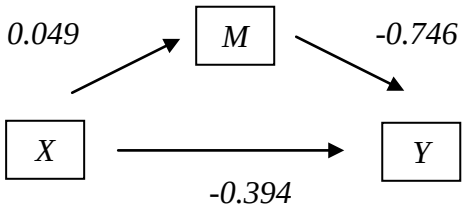
Figure F76. Predicting Lives Alone from Aggression through Sexually Opportunistic Motivation.

Lives Alone from Level of Injury



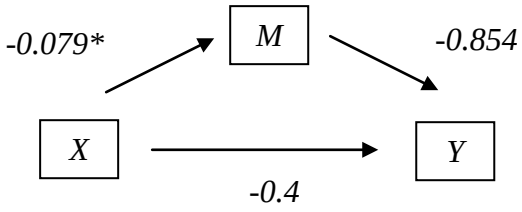
Regression Summary: -2LL=49.839, Model LL=2.713, McFadden=0.052, CoxSnell=0.047, Nagelkrk=0.078

Figure F77. Predicting Lives Alone from Level of Injury through Angry Motivation.



Regression Summary: -2LL=49.900, Model LL=2.653, McFadden=0.051, CoxSnell=0.046, Nagelkrk=0.076

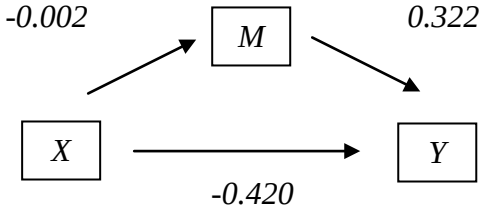
Figure F78. Predicting Lives Alone from Level of Injury through Sadistic Motivation.



Regression Summary: -2LL=49.841, Model LL=2.712, McFadden=0.052, CoxSnell=0.047, Nagelkrk=0.078

*p<0.05

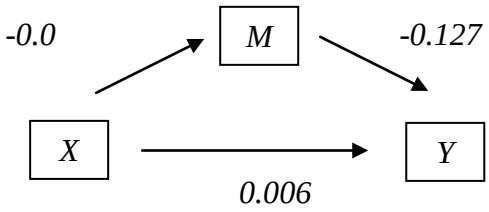
Figure F79. Predicting Lives Alone from Level of Injury through Sexually Compensatory Motivation.



Regression Summary: -2LL=50.279, Model LL=2.274, McFadden=0.043, CoxSnell=0.040, Nagelkrk=0.065

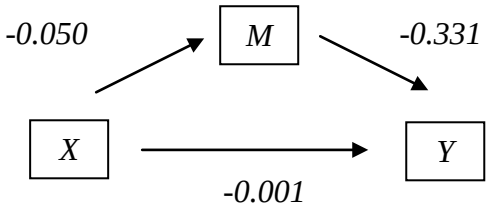
Figure F80. Predicting Lives Alone from Level of Injury through Sexually Opportunistic Motivation.

Lives Alone from Offence Outcome



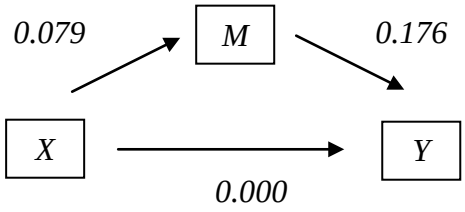
Regression Summary: -2LL=84.190, Model LL=0.051, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure F81. Predicting Lives Alone from Offence Outcome through Angry Motivation.



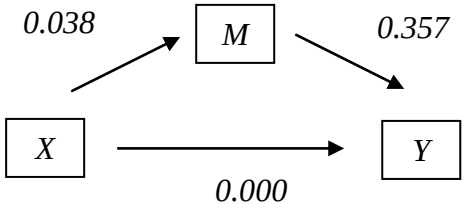
Regression Summary: -2LL=84.004, Model LL=0.238, McFadden=0.003, CoxSnell=0.003, Nagelkrk=0.004

Figure F82. Predicting Lives Alone from Offence Outcome through Sadistic Motivation.



Regression Summary: -2LL=84.182, Model LL=059, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

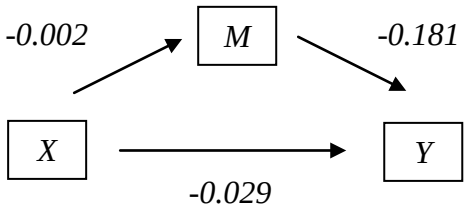
Figure F83. Predicting Lives Alone from Offence Outcome through Sexually Compensatory Motivation.



Regression Summary: -2LL=83.950, Model LL=0.291, McFadden=0.004, CoxSnell=0.003, Nagelkrk=0.005

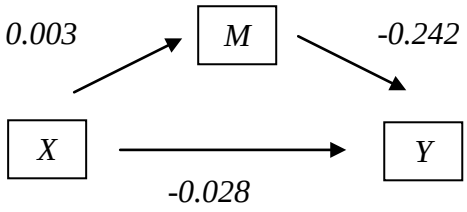
Figure F84. Predicting Lives Alone from Offence Outcome through Sexually Opportunistic Motivation.

Lives Alone from Victim Age



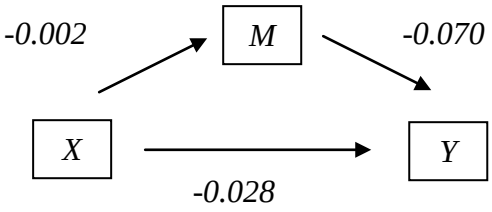
Regression Summary: -2LL=81.705, Model LL=2.536, McFadden=0.050, CoxSnell=0.028, Nagelkrk=0.046

Figure F85. Predicting Lives Alone from Victim Age through Angry Motivation.



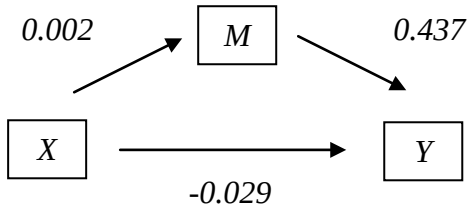
Regression Summary: -2LL=81.684, Model LL=2.557, McFadden=0.030, CoxSnell=0.028, Nagelkrk=0.046

Figure F86. Predicting Lives Alone from Victim Age through Sadistic Motivation.



Regression Summary: -2LL=81.797, Model LL=2.445, McFadden=0.029, CoxSnell=0.027, Nagelkrk=0.044

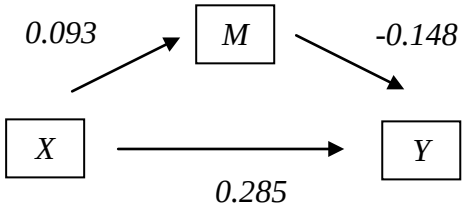
Figure F87. Predicting Lives Alone from Victim Age through Sexually Compensatory Motivation.



Regression Summary: -2LL=81.39, Model LL=2.853, McFadden=0.034, CoxSnell=0.031, Nagelkrk=0.051

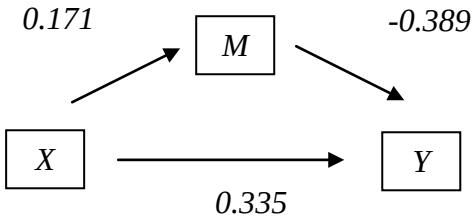
Figure F88. Predicting Lives Alone from Victim Age through Sexually Compensatory Motivation.

Lives Alone from Weapon Use



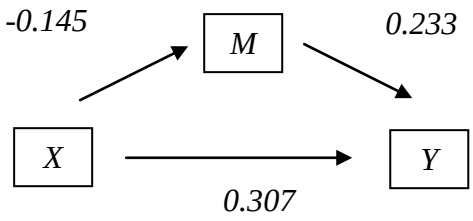
Regression Summary: -2LL=84.003, Model LL=0.238, McFadden=0.003, CoxSnell=0.003, Nagelkrk=0.004

Figure F89. Predicting Lives Alone from Weapon Being Used through Angry Motivation.



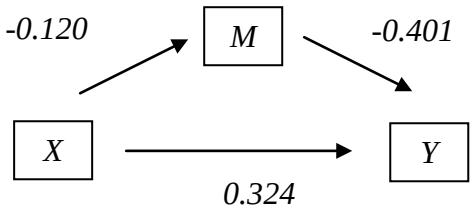
Regression Summary: -2LL=83.752, Model LL=0.490, McFadden=0.006, CoxSnell=0.006, Nagelkrk=0.009

Figure F90. Predicting Lives Alone from Weapon Being Used through Sadistic Motivation.



Regression Summary: -2LL=83.970, Model LL=0.271, McFadden=0.003, CoxSnell=0.03, Nagelkrk=0.005

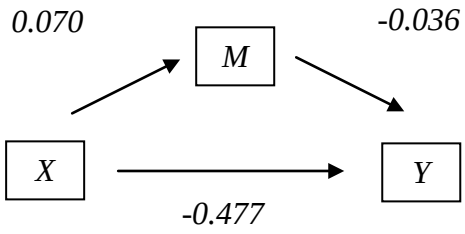
Figure F91. Predicting Lives Alone from Weapon Being Used through Sexually Compensatory Motivation.



Regression Summary: -2LL=83.712, Model LL=0.529, McFadden=0.006, CoxSnell=0.006, Nagelkrk=0.010

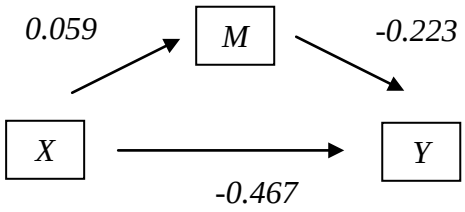
Figure F92. Predicting Lives Alone from Weapon Being Used through Sexually Opportunistic Motivation.

Lives Alone from Sexual Penetration



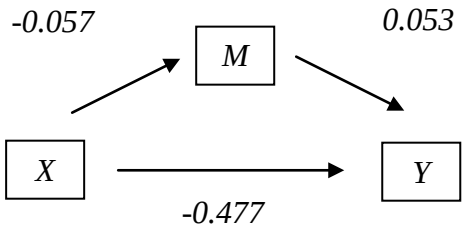
Regression Summary: -2LL=82.364, Model LL=1.878, McFadden=0.022, CoxSnell=0.021, Nagelkrk=0.034

Figure F93. Predicting Lives Alone from Sexual Penetration through Angry Motivation.



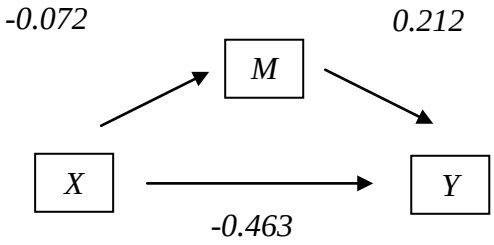
Regression Summary: -2LL=82.265, Model LL=1.976, McFadden=0.023, CoxSnell=0.022, Nagelkrk=0.036

Figure F94. Predicting Lives Alone from Sexual Penetration through Sadistic Motivation.



Regression Summary: -2LL=82.362, Model LL=1.879, McFadden=0.022, CoxSnell=0.021, Nagelkrk=0.034

Figure F95. Predicting Lives Alone from Sexual Penetration through Sexually Compensatory Motivation.



Regression Summary: -2LL=82.266, Model LL=1.975, McFadden=0.023, CoxSnell=0.022, Nagelkrk=0.034

Figure F96. Predicting Lives Alone from Sexual Penetration through Sexually Opportunistic Motivation.

Table F22. Indirect Effects of Level of Aggression on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.018	0.173	-0.195	0.261	-0.173	0.285	-0.172	0.287
Sadistic	0.007	0.303	-0.834	0.132	-1.898	0.067	-1.076	0.107
Sexually Compensatory	-0.002	0.225	-0.802	0.034	-0.090	0.095	-0.083	0.111
Sexually Opportunistic	0.001	0.415	-0.241	0.507	-0.262	0.438	-0.306	0.360

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F23. Indirect Effects of Level of Injury on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.018	0.167	-0.103	0.219	-0.054	0.479	-0.058	0.384
Sadistic	-0.037	0.636	-2.050	0.224	-2.162	0.171	-1.652	0.995
Sexually Compensatory	0.068	0.725	-0.158	2.433	-0.237	2.159	-1.146	1.632
Sexually Opportunistic	-0.001	0.314	-1.136	0.136	-0.663	0.497	-0.826	0.274

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F24. Indirect Effects of Offence Outcome on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.008	0.134	-0.158	0.198	-0.103	0.290	-0.114	0.268
Sadistic	0.018	0.420	-0.153	0.724	-0.087	2.566	-0.109	1.714
Sexually Compensatory	0.014	0.412	-1.102	0.195	-0.135	0.352	-0.109	0.686
Sexually Opportunistic	0.014	0.197	-0.153	0.212	-0.092	0.317	-0.098	0.290

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F25. Indirect Effects of Victim Age on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.000	0.005	-0.004	0.006	-0.003	0.008	-0.003	0.008
Sadistic	-0.001	0.013	-0.031	0.007	-0.089	0.003	-0.070	0.004
Sexually Compensatory	-0.000	0.009	-0.006	0.012	-0.006	0.006	-0.009	0.005
Sexually Opportunistic	0.001	0.010	-0.006	0.006	-0.002	0.014	-0.002	0.014

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F26. Indirect Effects of Weapon Used on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.014	0.182	-0.274	0.176	-0.413	0.114	-0.375	0.123
Sadistic	-0.067	0.662	-2.043	0.219	-3.641	0.149	-2.830	0.184
Sexually Compensatory	-0.034	0.504	-0.325	1.929	-0.374	0.348	-0.419	0.023
Sexually Opportunistic	-0.048	0.286	-0.351	0.186	-0.417	0.123	-0.421	0.121

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F27. Indirect Effects of Sexual Penetration on Lives Alone through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.003	0.091	-0.141	0.105	-0.166	0.094	-0.152	0.099
Sadistic	-0.013	0.342	-1.132	0.093	-1.951	0.068	-1.371	0.087
Sexually Compensatory	-0.003	0.203	-0.076	0.854	-0.085	0.629	-0.098	0.131
Sexually Opportunistic	-0.015	0.158	-0.121	0.146	-0.134	0.109	-0.144	0.095

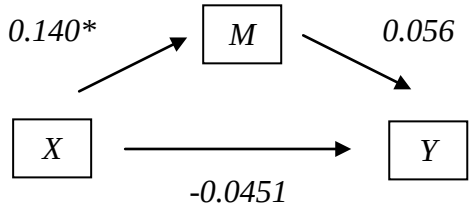
Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F28. Total Effects of Offence Variables on Lives Alone (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.576	0.323	-1.787	0.074	3.194
Level of Injuries	-0.422	0.291	-1.450	0.147	2.103
Offence Outcome	0.0144	0.569	0.025	0.979	0.001
Victim Age	-0.028	0.020	-1.397	0.162	1.952
Weapon Used	0.271	0.646	0.420	0.675	0.176
Sexual Penetration	-0.479	0.407	-1.177	0.239	1.386

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

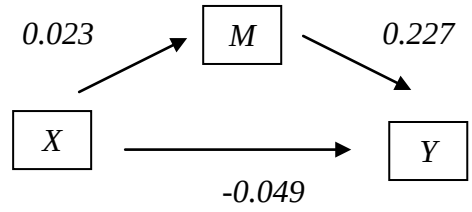
Employed from Level of Aggression Used



Regression Summary: -2LL=122.539, Model LL=0.0410, McFadden=0.000, CoxSnell=0.001, Nagelkrk=0.001

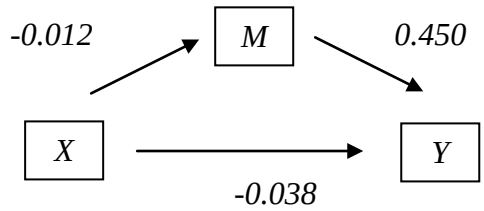
**p < 0.05*

Figure F97. Predicting Employed from Aggression through Angry Motivation.



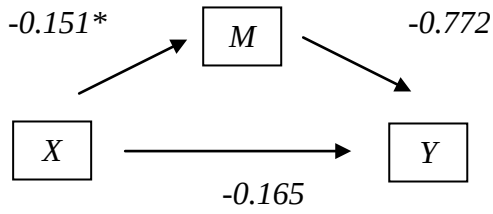
Regression Summary: -2LL=122.356, Model LL=0.224, McFadden=0.002 CoxSnell=0.003, Nagelkrk=0.003

Figure F98. Predicting Employed from Aggression through Sadistic Motivation.



Regression Summary: -2LL=121.966, Model LL=0.614, McFadden=0.005, CoxSnell=0.007, Nagelkrk=0.009

Figure F99. Predicting Employed from Aggression through Sexually Compensatory Motivation.

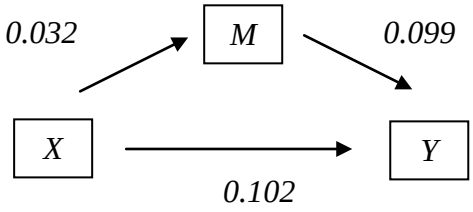


Regression Summary: -2LL=120.640, Model LL=1.940, McFadden=0.016, CoxSnell=0.021, Nagelkrk=0.029

**p < 0.05*

Figure F100. Predicting Employed from Aggression through Sexually Opportunistic Motivation.

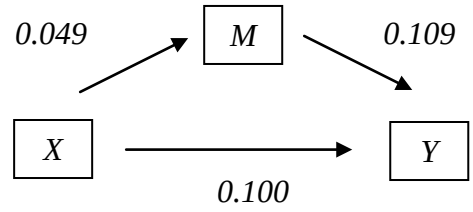
Employed from Level of Injury



Regression Summary: -2LL=74.794, Model LL=0.247, McFadden=0.003, CoxSnell=0.004, Nagelkrk=0.006

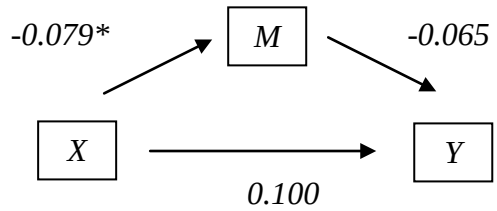
* $p<0.05$

Figure F101. Predicting Employed from Level of Injury through Angry Motivation.



Regression Summary: -2LL=74.802, Model LL=0.239, McFadden=0.003 CoxSnell=0.004, Nagelkrk=0.006

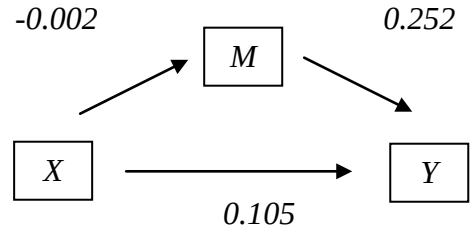
Figure F102. Predicting Employed from Level of Injury through Sadistic Motivation.



Regression Summary: -2LL=74.820, Model LL=0.221, McFadden=0.003, CoxSnell=0.004, Nagelkrk=0.005

* $p<0.05$

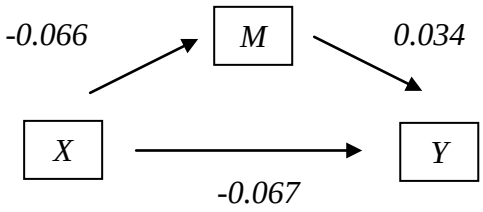
Figure F103. Predicting Employed from Level of Injury through Sexually Compensatory Motivation.



Regression Summary: -2LL=74.710, Model LL=0.331, McFadden=0.004, CoxSnell=0.006, Nagelkrk=0.008

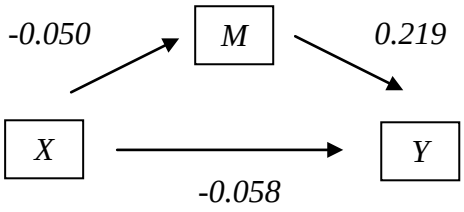
Figure F104. Predicting Employed from Level of Injury through Sexually Opportunistic Motivation.

Employed from Offence Outcome



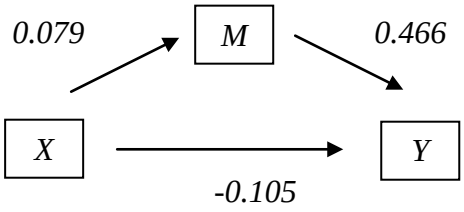
Regression Summary: -2LL=122.549, Model LL=0.031, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.001

Figure F105. Predicting Employed from Offence Outcome through Angry Motivation.



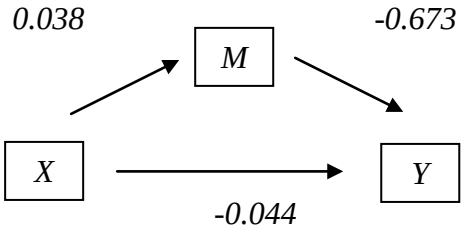
Regression Summary: -2LL=122.370, Model LL=0.210, McFadden=0.002, CoxSnell=0.002, Nagelkrk=0.003

Figure F106. Predicting Employed from Offence Outcome through Sadistic Motivation.



Regression Summary: -2LL=121.929, Model LL=0.651, McFadden=0.005, CoxSnell=0.007, Nagelkrk=0.010

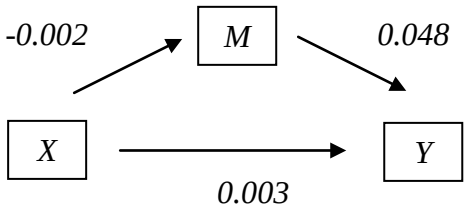
Figure F107. Predicting Employed from Offence Outcome through Sexually Compensatory Motivation.



Regression Summary: -2LL=120.949, Model LL=1.631, McFadden=0.013, CoxSnell=0.018, Nagelkrk=0.024

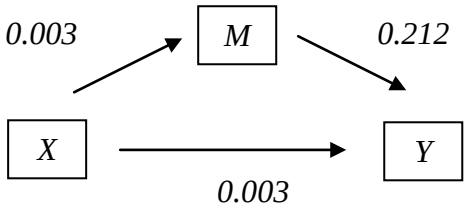
Figure F108. Predicting Employed from Offence Outcome through Sexually Opportunistic Motivation.

Employed from Victim Age



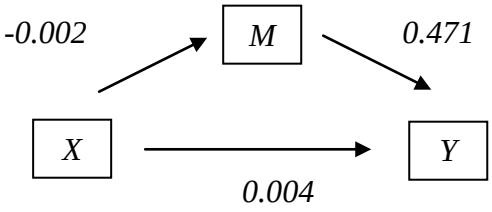
Regression Summary: -2LL=122.500, Model LL=0.081, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure F109. Predicting Employed from Victim Age through Angry Motivation.



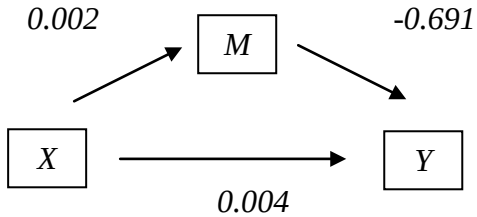
Regression Summary: -2LL=122.340 Model LL=0.239, McFadden=0.002, CoxSnell=0.003, Nagelkrk=0.004

Figure F110. Predicting Employed from Victim Age through Sadistic Motivation.



Regression Summary: -2LL=121.871, Model LL=0.709, McFadden=0.006, CoxSnell=0.008, Nagelkrk=0.011

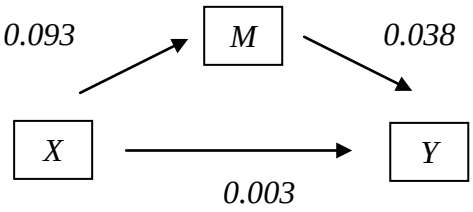
Figure F111. Predicting Employed from Victim Age through Sexually Compensatory Motivation.



Regression Summary: -2LL=120.825, Model LL=1.755, McFadden=0.014, CoxSnell=0.019, Nagelkrk=0.026

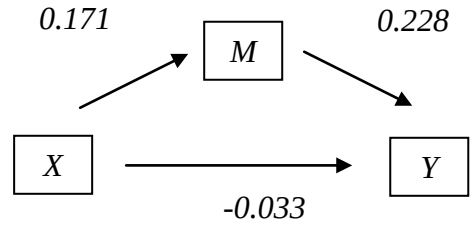
Figure F112. Predicting Employed from Victim Age through Sexually Opportunistic Motivation.

Employed from Weapon Use



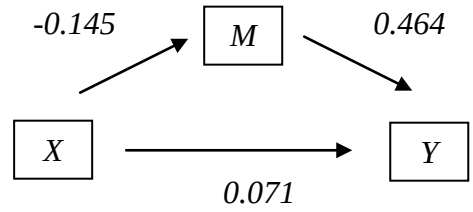
Regression Summary: -2LL=122.572, Model LL=0.008, McFadden=0.000, CoxSnell=0.000, Nagelkrk=0.000

Figure F113. Predicting Employed from Weapon Being Used through Angry Motivation.



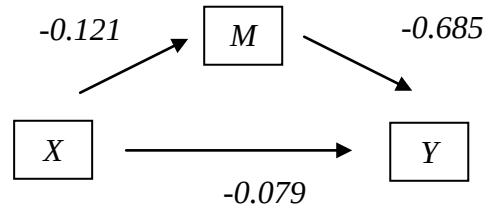
Regression Summary: -2LL=122.383, Model LL=0.196, McFadden=0.002, CoxSnell=0.002, Nagelkrk=0.003

Figure F114. Predicting Employed from Weapon Being Used through Sadistic Motivation.



Regression Summary: -2LL=121.967, Model LL=0.613, McFadden=0.005, CoxSnell=0.007, Nagelkrk=0.009

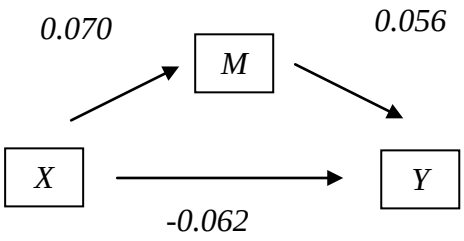
Figure F115. Predicting Employed from Weapon Being Used through Sexually Compensatory Motivation.



Regression Summary: -2LL=120.937, Model LL=1.643, McFadden=0.013, CoxSnell=0.018, Nagelkrk=0.024

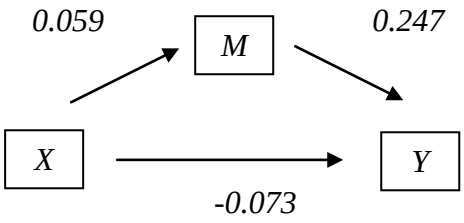
Figure F116. Predicting Employed from Weapon Being Used through Sexually Opportunistic Motivation.

Employed from Sexual Penetration



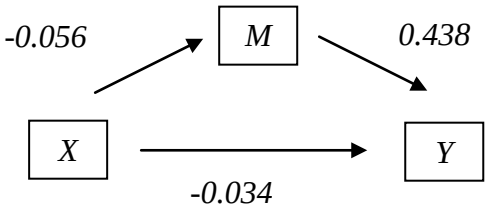
Regression Summary: -2LL=122.489, Model LL=0.090, McFadden=0.001, CoxSnell=0.001, Nagelkrk=0.001

Figure F117. Predicting Employed from Sexual Penetration through Angry Motivation.



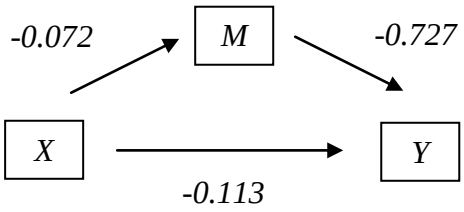
Regression Summary: -2LL=122.274, Model LL=0.306, McFadden=0.003, CoxSnell=0.003, Nagelkrk=0.005

Figure F118. Predicting Employed from Sexual Penetration through Sadistic Motivation.



Regression Summary: -2LL=121.959, Model LL=0.620, McFadden=0.005, CoxSnell=0.007, Nagelkrk=0.009

Figure F119. Predicting Employed from Sexual Penetration through Sexually Compensatory Motivation.



Regression Summary: -2LL=120.694, Model LL=1.886, McFadden=0.015, CoxSnell=0.021, Nagelkrk=0.028

Figure F120. Predicting Employed from Sexual Penetration through Sexually Opportunistic Motivation.

Table F29. Indirect Effects of Level of Aggression on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.008	0.070	-0.152	0.144	-0.132	0.159	-0.134	0.159
Sadistic	0.005	0.046	-0.068	0.094	-0.044	0.137	-0.052	0.115
Sexually Compensatory	-0.006	0.096	-0.117	0.071	-0.176	0.045	-0.179	0.04
Sexually Opportunistic	0.116	0.143	-0.046	0.426	-0.032	0.457	-0.039	0.445

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F30. Indirect Effects of Level of Injury on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.003	0.040	-0.080	0.096	-0.058	0.125	-0.060	0.121
Sadistic	0.005	0.193	-0.078	0.202	-0.077	0.208	-0.087	0.173
Sexually Compensatory	0.005	0.320	-0.981	0.233	-0.455	0.297	-0.251	0.403
Sexually Opportunistic	0.001	0.114	-0.097	0.104	-0.086	0.114	-0.078	0.136

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F31. Indirect Effects of Offence Outcome on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.002	0.058	-0.127	0.125	-0.157	0.101	-0.152	0.103
Sadistic	-0.011	0.079	-0.175	0.091	-0.251	0.059	-0.232	0.065
Sexually Compensatory	0.037	0.168	-0.102	0.263	-0.057	0.438	-0.065	0.358
Sexually Opportunistic	-0.025	0.102	-0.226	0.127	-0.299	0.081	-0.281	0.089

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F32. Indirect Effects of Victim Age on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	-0.000	0.002	-0.004	0.003	-0.005	0.002	-0.004	0.003
Sadistic	0.001	0.002	-0.004	0.006	-0.002	0.009	-0.002	0.008
Sexually Compensatory	-0.001	0.005	-0.007	0.002	-0.010	0.001	-0.008	0.002
Sexually Opportunistic	-0.001	0.003	-0.007	0.004	-0.010	0.002	-0.011	0.002

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F33. Indirect Effects of Weapon Used on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.004	0.076	-0.159	0.172	-0.130	0.206	-0.134	0.202
Sadistic	0.039	0.128	-0.178	0.360	-0.123	0.415	-0.129	0.432
Sexually Compensatory	-0.067	0.197	-0.318	0.122	-0.415	0.086	-0.414	0.087
Sexually Opportunistic	0.082	0.098	-0.108	0.293	-0.045	0.387	-0.040	0.397

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F34. Indirect Effects of Sexual Penetration on Employed through Motivational Variables (*ab* paths)

			Bootstrapping					
	B	*SE*	Percentile 95% CI		BC 95% CI		BCa 95% CI	
			Lower	Upper	Lower	Upper	Lower	Upper
Angry	0.004	0.042	-0.078	0.100	-0.065	0.117	-0.067	0.116
Sadistic	0.045	0.050	-0.063	0.136	-0.040	0.186	-0.042	0.174
Sexually Compensatory	-0.025	0.95	-0.145	0.029	-0.147	0.027	-0.139	0.031
Sexually Opportunistic	0.053	0.053	-0.019	0.178	-0.017	0.182	-0.020	0.177

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples

Table F35. Total Effects of Offence Variables on Employed (*c* path)

		Product of Coefficients			
	B	*SE*	*z*	*p*	*Wald*
Level of Aggression	-0.044	0.275	-0.159	0.874	0.025
Level of Injuries	0.016	0.228	0.464	0.643	0.215
Offence Outcome	-0.069	0.441	-0.167	0.876	0.025
Victim Age	0.003	0.012	0.261	0.794	0.068
Weapon Used	0.006	0.523	0.002	0.991	0.000
Sexual Penetration	-0.058	0.214	-0.273	0.785	0.074

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples